



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
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## [All poisonous plants](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



#### **Common name**

[alder buckthorn](#)  
[alfalfa](#)  
[aloe - \*A. barbadensis\*](#)  
[alsike clover](#)  
[amaryllis \(\*A. belladonna\*\)](#)  
[amaryllis \(\*A. vittata\*\)](#)  
[American elder](#)  
[American holly](#)  
[American mistletoe](#)  
[angel's trumpet](#)  
[Astragalus \(\*A. adsurgens\*\)](#)  
[Astragalus \(\*A. lentiginosus\*\)](#)  
[Australian umbrella tree](#)  
[autumn crocus](#)  
[avocado](#)  
[bird rape](#)  
[black cherry](#)  
[black henbane](#)  
[black locust](#)  
[black nightshade](#)  
[black oak](#)  
[black walnut](#)  
[black-eyed Susan](#)  
[blue cardinalflower](#)  
[blue cohosh](#)  
[blue flag iris](#)  
[blueweed](#)  
[bog-laurel](#)  
[bracken](#)  
[broad bean](#)  
[broom snakeweed](#)  
[buckwheat](#)  
[bulbous buttercup](#)  
[bur buttercup](#)

#### **Scientific name**

*Rhamnus frangula*  
*Medicago sativa*  
*Aloe barbadensis*  
*Trifolium hybridum*  
*Amaryllis belladonna*  
*Amaryllis vittata*  
*Sambucus canadensis*  
*Ilex opaca*  
*Phoradendron flavescens*  
*Datura innoxia*  
*Astragalus adsurgens*  
*Astragalus lentiginosus*  
*Brassaia actinophylla*  
*Colchicum autumnale*  
*Persea americana*  
*Brassica campestris*  
*Prunus serotina*  
*Hyoscyamus niger*  
*Robinia pseudoacacia*  
*Solanum nigrum*  
*Quercus velutina*  
*Juglans nigra*  
*Rudbeckia serotina*  
*Lobelia siphilitica*  
*Caulophyllum thalictroides*  
*Iris versicolor*  
*Echium vulgare*  
*Kalmia polifolia*  
*Pteridium aquilinum*  
*Vicia faba*  
*Gutierrezia sarothrae*  
*Fagopyrum esculentum*  
*Ranunculus bulbosus*  
*Ceratocephalus testiculatus*

|  |                                  |
|--|----------------------------------|
| <a href="#">Burke's lupine</a>           | <i>Lupinus burkei</i>            |
| <a href="#">burningbush</a>              | <i>Euonymus atropurpureus</i>    |
| <a href="#">caladium</a>                 | <i>Caladium bicolor</i>          |
| <a href="#">California bluebell</a>      | <i>Phacelia campanularia</i>     |
| <a href="#">California rose-bay</a>      | <i>Rhododendron macrophyllum</i> |
| <a href="#">Canada nettle</a>            | <i>Laportea canadensis</i>       |
| <a href="#">Canada yew</a>               | <i>Taxus canadensis</i>          |
| <a href="#">Canadian milk-vetch</a>      | <i>Astragalus canadensis</i>     |
| <a href="#">candalabra aloe</a>          | <i>Aloe arborescens</i>          |
| <a href="#">candelabra-cactus</a>        | <i>Euphorbia lactea</i>          |
| <a href="#">caper spurge</a>             | <i>Euphorbia lathyris</i>        |
| <a href="#">cardinalflower</a>           | <i>Lobelia cardinalis</i>        |
| <a href="#">castor-bean</a>              | <i>Ricinus communis</i>          |
| <a href="#">celery-leaved buttercup</a>  | <i>Ranunculus sceleratus</i>     |
| <a href="#">Chinese-lantern</a>          | <i>Physalis alkekengi</i>        |
| <a href="#">chives</a>                   | <i>Allium schoenoprasum</i>      |
| <a href="#">chrysanthemum</a>            | <i>Chrysanthemum indicum</i>     |
| <a href="#">climbing nightshade</a>      | <i>Solanum dulcamara</i>         |
| <a href="#">cocklebur</a>                | <i>Xanthium strumarium</i>       |
| <a href="#">Colorado rubberweed</a>      | <i>Hymenoxys richardsonii</i>    |
| <a href="#">common comfrey</a>           | <i>Symphytum officinale</i>      |
| <a href="#">common groundsel</a>         | <i>Senecio vulgaris</i>          |
| <a href="#">common hop</a>               | <i>Humulus lupulus</i>           |
| <a href="#">common milkweed</a>          | <i>Asclepias syriaca</i>         |
| <a href="#">common privet</a>            | <i>Ligustrum vulgare</i>         |
| <a href="#">common vetch</a>             | <i>Vicia sativa</i>              |
| <a href="#">corn poppy</a>               | <i>Papaver rhoeas</i>            |
| <a href="#">croton</a>                   | <i>Codiaeum variegatum</i>       |
| <a href="#">crown-of-thorns</a>          | <i>Euphorbia milii</i>           |
| <a href="#">cut-leaved coneflower</a>    | <i>Rudbeckia laciniata</i>       |
| <a href="#">cyclamen</a>                 | <i>Cyclamen persicum</i>         |
| <a href="#">cypress spurge</a>           | <i>Euphorbia cyparissias</i>     |
| <a href="#">daffodil</a>                 | <i>Narcissus pseudonarcissus</i> |
| <a href="#">death camas</a>              | <i>Zigadenus venenosus</i>       |
| <a href="#">Devil's-backbone</a>         | <i>Kalanchoe daigremontiana</i>  |
| <a href="#">dumbcane</a>                 | <i>Dieffenbachia bausei</i>      |
| <a href="#">Dutchman's-breeches</a>      | <i>Dicentra cucullaria</i>       |
| <a href="#">eastern whorled milkweed</a> | <i>Asclepias verticillata</i>    |
| <a href="#">English bluebell</a>         | <i>Hyacinthoides nonscripta</i>  |
| <a href="#">English holly</a>            | <i>Ilex aquifolium</i>           |
| <a href="#">English ivy</a>              | <i>Hedera helix</i>              |
| <a href="#">English yew</a>              | <i>Taxus baccata</i>             |
| <a href="#">entire-leaved groundsel</a>  | <i>Senecio integerrimus</i>      |
| <a href="#">European buckthorn</a>       | <i>Rhamnus cathartica</i>        |

|   |                                 |
|---|---------------------------------|
| <a href="#">European elder</a>            | <i>Sambucus nigra</i>           |
| <a href="#">European spindle tree</a>     | <i>Euonymus europaeus</i>       |
| <a href="#">false hellebore</a>           | <i>Veratrum viride</i>          |
| <a href="#">false ragweed</a>             | <i>Iva xanthifolia</i>          |
| <a href="#">February daphne</a>           | <i>Daphne mezereum</i>          |
| <a href="#">fiddleneck</a>                | <i>Amsinckia intermedia</i>     |
| <a href="#">field horsetail</a>           | <i>Equisetum arvense</i>        |
| <a href="#">five-hooked bassia</a>        | <i>Bassia hyssopifolia</i>      |
| <a href="#">flamingo lily</a>             | <i>Anthurium andraeanum</i>     |
| <a href="#">fly honeysuckle</a>           | <i>Lonicera xylosteum</i>       |
| <a href="#">foxglove</a>                  | <i>Digitalis purpurea</i>       |
| <a href="#">garden-sorrel</a>             | <i>Rumex acetosa</i>            |
| <a href="#">garland daphne</a>            | <i>Daphne cneorum</i>           |
| <a href="#">garlic</a>                    | <i>Allium sativum</i>           |
| <a href="#">gas plant</a>                 | <i>Dictamnus albus</i>          |
| <a href="#">giant dumbcane</a>            | <i>Dieffenbachia amoena</i>     |
| <a href="#">giant hogweed</a>             | <i>Heracleum mantegazzianum</i> |
| <a href="#">glory lily</a>                | <i>Gloriosa superba</i>         |
| <a href="#">golden-bean</a>               | <i>Thermopsis rhombifolia</i>   |
| <a href="#">golden-chain</a>              | <i>Laburnum anagyroides</i>     |
| <a href="#">golden-trumpet</a>            | <i>Allamanda cathartica</i>     |
| <a href="#">grass pea</a>                 | <i>Lathyrus sativus</i>         |
| <a href="#">greasewood</a>                | <i>Sarcobatus vermiculatus</i>  |
| <a href="#">greater celandine</a>         | <i>Chelidonium majus</i>        |
| <a href="#">green tansy mustard</a>       | <i>Descurainia pinnata</i>      |
| <a href="#">ground-cherry</a>             | <i>Physalis peruviana</i>       |
| <a href="#">ground-ivy</a>                | <i>Glechoma hederacea</i>       |
| <a href="#">Guelder-rose</a>              | <i>Viburnum opulus</i>          |
| <a href="#">hairy vetch</a>               | <i>Vicia villosa</i>            |
| <a href="#">heart-leaved philodendron</a> | <i>Philodendron scandens</i>    |
| <a href="#">hemp dogbane</a>              | <i>Apocynum cannabinum</i>      |
| <a href="#">horse-chestnut</a>            | <i>Aesculus hippocastanum</i>   |
| <a href="#">horseradish</a>               | <i>Armoracia rusticana</i>      |
| <a href="#">hound's tongue</a>            | <i>Cynoglossum officinale</i>   |
| <a href="#">hydrangea</a>                 | <i>Hydrangea macrophylla</i>    |
| <a href="#">Iceland poppy</a>             | <i>Papaver nudicaule</i>        |
| <a href="#">Indian mustard</a>            | <i>Brassica juncea</i>          |
| <a href="#">Indian-tobacco</a>            | <i>Lobelia inflata</i>          |
| <a href="#">Jack-in-the-pulpit</a>        | <i>Arisaema triphyllum</i>      |
| <a href="#">Japanese wisteria</a>         | <i>Wisteria floribunda</i>      |
| <a href="#">Japanese yew</a>              | <i>Taxus cuspidata</i>          |
| <a href="#">Jerusalem-cherry</a>          | <i>Solanum pseudocapsicum</i>   |
| <a href="#">jimsonweed</a>                | <i>Datura stramonium</i>        |
| <a href="#">Johnson grass</a>             | <i>Sorghum halepense</i>        |

|   |                              |
|---|------------------------------|
| <a href="#">Kaffir lily</a>                         | <i>Clivia miniata</i>        |
| <a href="#">Kentucky coffeetree</a>                 | <i>Gymnocladus dioicus</i>   |
| <a href="#">kochia</a>                              | <i>Kochia scoparia</i>       |
| <a href="#">lamb's-quarters</a>                     | <i>Chenopodium album</i>     |
| <a href="#">large-leaved lupine</a>                 | <i>Lupinus polyphyllus</i>   |
| <a href="#">leafy spurge</a>                        | <i>Euphorbia esula</i>       |
| <a href="#">leatherwood</a>                         | <i>Dirca palustris</i>       |
| <a href="#">lily-of-the-valley</a>                  | <i>Convallaria majalis</i>   |
| <a href="#">locoweed (<i>Oxytropis sericea</i>)</a> | <i>Oxytropis sericea</i>     |
| <a href="#">low larkspur</a>                        | <i>Delphinium bicolor</i>    |
| <a href="#">maidenhair tree</a>                     | <i>Ginkgo biloba</i>         |
| <a href="#">mango</a>                               | <i>Mangifera indica</i>      |
| <a href="#">marijuana</a>                           | <i>Cannabis sativa</i>       |
| <a href="#">marsh arrow-grass</a>                   | <i>Triglochin palustre</i>   |
| <a href="#">marsh horsetail</a>                     | <i>Equisetum palustre</i>    |
| <a href="#">May-apple</a>                           | <i>Podophyllum peltatum</i>  |
| <a href="#">Menzies larkspur</a>                    | <i>Delphinium menziesii</i>  |
| <a href="#">monk's hood</a>                         | <i>Aconitum napellus</i>     |
| <a href="#">moonseed</a>                            | <i>Menispermum canadense</i> |
| <a href="#">morning glory</a>                       | <i>Ipomoea tricolor</i>      |
| <a href="#">mother-in-law plant</a>                 | <i>Dieffenbachia seguine</i> |
| <a href="#">motherwort</a>                          | <i>Leonurus cardiaca</i>     |
| <a href="#">naked-flowered sneezeweed</a>           | <i>Helenium flexuosum</i>    |
| <a href="#">narcissus</a>                           | <i>Narcissus poeticus</i>    |
| <a href="#">northern water-hemlock</a>              | <i>Cicuta virosa</i>         |
| <a href="#">oats</a>                                | <i>Avena sativa</i>          |
| <a href="#">Ohio buckeye</a>                        | <i>Aesculus glabra</i>       |
| <a href="#">oleander</a>                            | <i>Nerium oleander</i>       |
| <a href="#">onion</a>                               | <i>Allium cepa</i>           |
| <a href="#">opium poppy</a>                         | <i>Papaver somniferum</i>    |
| <a href="#">Oriental poppy</a>                      | <i>Papaver orientale</i>     |
| <a href="#">Osage-orange</a>                        | <i>Maclura pomifera</i>      |
| <a href="#">pawpaw</a>                              | <i>Asimina triloba</i>       |
| <a href="#">penciltree</a>                          | <i>Euphorbia tirucalli</i>   |
| <a href="#">Peruvian lily</a>                       | <i>Alstroemeria ligtu</i>    |
| <a href="#">petty spurge</a>                        | <i>Euphorbia peplus</i>      |
| <a href="#">philodendron</a>                        | <i>Philodendron cordatum</i> |
| <a href="#">pin cherry</a>                          | <i>Prunus pensylvanica</i>   |
| <a href="#">pink lady's-slipper</a>                 | <i>Cypripedium acaule</i>    |
| <a href="#">poinsettia</a>                          | <i>Euphorbia pulcherrima</i> |
| <a href="#">poison ivy</a>                          | <i>Rhus radicans</i>         |
| <a href="#">poison suckleya</a>                     | <i>Suckleya suckleyana</i>   |
| <a href="#">poison sumac</a>                        | <i>Rhus vernix</i>           |
| <a href="#">poison-hemlock</a>                      | <i>Conium maculatum</i>      |

|   |                                  |
|---|----------------------------------|
| <a href="#">pokeweed</a>                    | <i>Phytolacca americana</i>      |
| <a href="#">ponderosa pine</a>              | <i>Pinus ponderosa</i>           |
| <a href="#">potato</a>                      | <i>Solanum tuberosum</i>         |
| <a href="#">precatory-pea</a>               | <i>Abrus precatorius</i>         |
| <a href="#">prickly comfrey</a>             | <i>Symphytum asperum</i>         |
| <a href="#">prickly lettuce</a>             | <i>Lactuca scariola</i>          |
| <a href="#">primula</a>                     | <i>Primula obconica</i>          |
| <a href="#">prostrate pigweed</a>           | <i>Amaranthus blitoides</i>      |
| <a href="#">purple cockle</a>               | <i>Agrostemma githago</i>        |
| <a href="#">purple locoweed</a>             | <i>Oxytropis lambertii</i>       |
| <a href="#">radish</a>                      | <i>Raphanus sativus</i>          |
| <a href="#">rapeseed</a>                    | <i>Brassica napus</i>            |
| <a href="#">red chokecherry</a>             | <i>Prunus virginiana</i>         |
| <a href="#">red clover</a>                  | <i>Trifolium pratense</i>        |
| <a href="#">red maple</a>                   | <i>Acer rubrum</i>               |
| <a href="#">red oak</a>                     | <i>Quercus rubra</i>             |
| <a href="#">redroot pigweed</a>             | <i>Amaranthus retroflexus</i>    |
| <a href="#">reed canarygrass</a>            | <i>Phalaris arundinacea</i>      |
| <a href="#">rhubarb</a>                     | <i>Rheum rhaponticum</i>         |
| <a href="#">Russian knapweed</a>            | <i>Centaurea repens</i>          |
| <a href="#">Saskatoon (a serviceberry)</a>  | <i>Amelanchier alnifolia</i>     |
| <a href="#">scarlet pimpernel</a>           | <i>Anagallis arvensis</i>        |
| <a href="#">seaside arrow-grass</a>         | <i>Triglochin maritima</i>       |
| <a href="#">sensitive fern</a>              | <i>Onoclea sensibilis</i>        |
| <a href="#">sheep sorrel</a>                | <i>Rumex acetosella</i>          |
| <a href="#">sheep-laurel</a>                | <i>Kalmia angustifolia</i>       |
| <a href="#">showy lady's-slipper</a>        | <i>Cypripedium reginae</i>       |
| <a href="#">showy milkweed</a>              | <i>Asclepias speciosa</i>        |
| <a href="#">Siberian scilla</a>             | <i>Scilla siberica</i>           |
| <a href="#">silky lupine</a>                | <i>Lupinus sericeus</i>          |
| <a href="#">silvery lupine</a>              | <i>Lupinus argenteus</i>         |
| <a href="#">skunk cabbage</a>               | <i>Symplocarpus foetidus</i>     |
| <a href="#">small lupine</a>                | <i>Lupinus pusillus</i>          |
| <a href="#">smooth pigweed</a>              | <i>Amaranthus hybridus</i>       |
| <a href="#">sneezeweed</a>                  | <i>Helenium autumnale</i>        |
| <a href="#">snowdrop</a>                    | <i>Galanthus nivalis</i>         |
| <a href="#">Sorghum</a>                     | <i>Sorghum bicolor</i>           |
| <a href="#">spatulate-leaved heliotrope</a> | <i>Heliotropium curassavicum</i> |
| <a href="#">spotted dumbcane</a>            | <i>Dieffenbachia maculata</i>    |
| <a href="#">spotted water-hemlock</a>       | <i>Cicuta maculata</i>           |
| <a href="#">spreading dogbane</a>           | <i>Apocynum androsaemifolium</i> |
| <a href="#">spurge-laurel</a>               | <i>Daphne laureola</i>           |
| <a href="#">squirrel-corn</a>               | <i>Dicentra canadensis</i>       |
| <a href="#">St. John's-wort</a>             | <i>Hypericum perforatum</i>      |

[star-of-Bethlehem](#)

[stinging nettle](#)

[stinking rabbitbrush](#)

[stinkweed](#)

[Sudan grass](#)

[sun spurge](#)

[sunflower](#)

[sweet pea](#)

[Swiss-cheese plant](#)

[tall larkspur](#)

[tall manna grass](#)

[tansy](#)

[tansy ragwort](#)

[Tartarian honeysuckle](#)

[thin-leaved snowberry](#)

[timber milk-vetch](#)

[tobacco](#)

[tree-of-heaven](#)

[tulip](#)

[two-grooved milk-vetch](#)

[veined dock](#)

[velvety goldenrod](#)

[Virginia creeper](#)

[western bleedingheart](#)

[western minniebush](#)

[western poison-oak](#)

[western water-hemlock](#)

[white camas](#)

[white clover](#)

[white oak](#)

[white rose-bay](#)

[white snakeroot](#)

[white sweet-clover](#)

[wild cabbage](#)

[wild calla](#)

[wild false indigo](#)

[wild ginger](#)

[wild indigo](#)

[wild mustard](#)

[wild onion](#)

[wild parsnip](#)

[wild radish](#)

[wormseed mustard](#)

[yellow iris](#)

*Ornithogalum umbellatum*

*Urtica dioica*

*Chrysothamnus nauseosus*

*Thlaspi arvense*

*Sorghum sudanense*

*Euphorbia helioscopia*

*Helianthus annuus*

*Lathyrus odoratus*

*Monstera deliciosa*

*Delphinium glaucum*

*Glyceria grandis*

*Tanacetum vulgare*

*Senecio jacobaea*

*Lonicera tatarica*

*Symphoricarpos albus*

*Astragalus miser*

*Nicotiana tabacum*

*Ailanthus altissima*

*Tulipa gesneriana*

*Astragalus bisulcatus*

*Rumex venosus*

*Solidago mollis*

*Parthenocissus quinquefolia*

*Dicentra formosa*

*Menziesia ferruginea*

*Rhus diversiloba*

*Cicuta douglasii*

*Zigadenus elegans*

*Trifolium repens*

*Quercus alba*

*Rhododendron albiflorum*

*Eupatorium rugosum*

*Melilotus alba*

*Brassica oleracea*

*Calla palustris*

*Baptisia leucantha*

*Asarum canadense*

*Baptisia tinctoria*

*Sinapis arvensis*

*Allium canadense*

*Pastinaca sativa*

*Raphanus raphanistrum*

*Erysimum cheiranthoides*

*Iris pseudacorus*

[yellow lady's-slipper](#)

[yellow rocket](#)

[yellow sage](#)

[yellow star-thistle](#)

[yellow sweet-clover](#)

[yellow toadflax](#)

*Cypripedium calceolus*

*Barbarea vulgaris*

*Lantana camara*

*Centaurea solstitialis*

*Melilotus officinalis*

*Linaria vulgaris*

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[Important Notices](#)



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| Système canadien d'information sur la biodiversité |                |       |                          |                |



## [Toutes les plantes vénéneuses](#)

### Introduction

### Recherche interactive

### Liste de toutes les plantes toxiques par nom scientifique

### Liste de toutes les plantes toxiques par nom commun

### Les principaux sites Web sur les plantes toxiques



#### **Nom commun**

[abrus à chapelet](#)  
[aconit Napel](#)  
[agripaume cardiaque](#)  
[ail](#)  
[ail du Canada](#)  
[alkékenge](#)  
[aloès](#)  
[alpiste roseau](#)  
[amarante à racine rouge](#)  
[amarante fausse-blite](#)  
[amarante hybride](#)  
[amaryllis](#)  
[amaryllis belladone](#)  
[amélanchier à feuilles d'aulne](#)  
[Amsinckia](#)  
[Anthurium](#)  
[apocyn à feuilles d'androsème](#)  
[apocyn chanvrin](#)  
[arbre ombrelle](#)  
[arum vénéneux](#)  
[asaret du Canada](#)  
[asclépiade de Syrie](#)  
[asclépiade verticillée](#)  
[asiminier trilobé](#)  
[astragale du Canada](#)  
[astragale fondu](#)  
[astragale prostré](#)  
[Astragalus \(A. adsurgens\)](#)  
[Astragalus \(A. lentiginosus\)](#)  
[auriole](#)  
[avocatier](#)  
[avoine](#)  
[azalée blanche](#)  
[baptisie leucanthe](#)

#### **Nom scientifique**

*Abrus precatorius*  
*Aconitum napellus*  
*Leonurus cardiaca*  
*Allium sativum*  
*Allium canadense*  
*Physalis alkekengi*  
*Aloe barbadensis*  
*Phalaris arundinacea*  
*Amaranthus retroflexus*  
*Amaranthus blitoides*  
*Amaranthus hybridus*  
*Amaryllis vittata*  
*Amaryllis belladonna*  
*Amelanchier alnifolia*  
*Amsinckia intermedia*  
*Anthurium andraeanum*  
*Apocynum androsaemifolium*  
*Apocynum cannabinum*  
*Brassaia actinophylla*  
*Dieffenbachia amoena*  
*Asarum canadense*  
*Asclepias syriaca*  
*Asclepias verticillata*  
*Asimina triloba*  
*Astragalus canadensis*  
*Astragalus bisulcatus*  
*Astragalus miser*  
*Astragalus adsurgens*  
*Astragalus lentiginosus*  
*Daphne laureola*  
*Persea americana*  
*Avena sativa*  
*Rhododendron albiflorum*  
*Baptisia leucantha*



|  |                                    |
|--|------------------------------------|
| <a href="#">barbarée vulgaire</a>          | <i>Barbarea vulgaris</i>           |
| <a href="#">bassia à feuilles d'hysope</a> | <i>Bassia hyssopifolia</i>         |
| <a href="#">belle asclépiade</a>           | <i>Asclepias speciosa</i>          |
| <a href="#">berce du Caucase</a>           | <i>Heracleum mantegazzianum</i>    |
| <a href="#">bigelovie puante</a>           | <i>Chrysothamnus nauseosus</i>     |
| <a href="#">bois d'arc</a>                 | <i>Maclura pomifera</i>            |
| <a href="#">cactus candélabre</a>          | <i>Euphorbia lactea</i>            |
| <a href="#">cagarrino</a>                  | <i>Euphorbia lathyris</i>          |
| <a href="#">caladium</a>                   | <i>Caladium bicolor</i>            |
| <a href="#">calla des marais</a>           | <i>Calla palustris</i>             |
| <a href="#">cardinale bleue</a>            | <i>Lobelia siphilitica</i>         |
| <a href="#">carotte à Moreau</a>           | <i>Cicuta maculata</i>             |
| <a href="#">centaurée de Russie</a>        | <i>Centaurea repens</i>            |
| <a href="#">centaurée du solstice</a>      | <i>Centaurea solstitialis</i>      |
| <a href="#">Ceratocephalus</a>             | <i>Ceratocephalus testiculatus</i> |
| <a href="#">cerisier d'amour</a>           | <i>Solanum pseudocapsicum</i>      |
| <a href="#">cerisier de Pennsylvanie</a>   | <i>Prunus pensylvanica</i>         |
| <a href="#">cerisier de Virginie</a>       | <i>Prunus virginiana</i>           |
| <a href="#">cerisier tardif</a>            | <i>Prunus serotina</i>             |
| <a href="#">chanvre</a>                    | <i>Cannabis sativa</i>             |
| <a href="#">chénopode blanc</a>            | <i>Chenopodium album</i>           |
| <a href="#">chêne blanc</a>                | <i>Quercus alba</i>                |
| <a href="#">chêne noir</a>                 | <i>Quercus velutina</i>            |
| <a href="#">chêne rouge</a>                | <i>Quercus rubra</i>               |
| <a href="#">chèvrefeuille à mouches</a>    | <i>Lonicera xylosteum</i>          |
| <a href="#">chèvrefeuille de Tartarie</a>  | <i>Lonicera tatarica</i>           |
| <a href="#">chicot du Canada</a>           | <i>Gymnocladus dioica</i>          |
| <a href="#">chou puant</a>                 | <i>Symplocarpus foetidus</i>       |
| <a href="#">chou sauvage</a>               | <i>Brassica oleracea</i>           |
| <a href="#">chrysanthème</a>               | <i>Chrysanthemum indicum</i>       |
| <a href="#">ciboulette</a>                 | <i>Allium schoenoprasum</i>        |
| <a href="#">cicutaire du nord</a>          | <i>Cicuta virosa</i>               |
| <a href="#">cicutaire pourpre</a>          | <i>Cicuta douglasii</i>            |
| <a href="#">ciguë maculée</a>              | <i>Conium maculatum</i>            |
| <a href="#">clajeux</a>                    | <i>Iris versicolor</i>             |
| <a href="#">clivies</a>                    | <i>Clivia miniata</i>              |
| <a href="#">colchique d'automne</a>        | <i>Colchicum autumnale</i>         |
| <a href="#">consoude âpre</a>              | <i>Symphytum asperum</i>           |
| <a href="#">consoude officinale</a>        | <i>Symphytum officinale</i>        |
| <a href="#">coqueret</a>                   | <i>Physalis peruviana</i>          |
| <a href="#">corne de cerf</a>              | <i>Aloe arborescens</i>            |
| <a href="#">couronne d'épines</a>          | <i>Euphorbia milii</i>             |
| <a href="#">croton ou codier</a>           | <i>Codiaeum variegatum</i>         |
| <a href="#">cyclamen de Perse</a>          | <i>Cyclamen persicum</i>           |

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|---|-----------------------------------|
| <a href="#">cynoglosse officinale</a>                           | <i>Cynoglossum officinale</i>     |
| <a href="#">cyripède acaule</a>                                 | <i>Cypripedium acaule</i>         |
| <a href="#">cyripède royal</a>                                  | <i>Cypripedium reginae</i>        |
| <a href="#">cyripède soulier</a>                                | <i>Cypripedium calceolus</i>      |
| <a href="#">cytise</a>  | <i>Laburnum anagyroides</i>       |
| <a href="#">dame d'onze heures</a>                              | <i>Ornithogalum umbellatum</i>    |
| <a href="#">daphné camélée</a>                                  | <i>Daphne cneorum</i>             |
| <a href="#">daphné jolibois</a>                                 | <i>Daphne mezereum</i>            |
| <a href="#">Delphinium menziesii</a> <a href="#">Delphinium</a> | <i>Delphinium menziesii</i>       |
| <a href="#">dicentre à capuchon</a>                             | <i>Dicentra cucullaria</i>        |
| <a href="#">dicentre du Canada</a>                              | <i>Dicentra canadensis</i>        |
| <a href="#">dictame</a>   | <i>Dictamnus albus</i>            |
| <a href="#">Dieffenbachia</a>                                   | <i>Dieffenbachia seguine</i>      |
| <a href="#">dieffenbachia</a>                                   | <i>Dieffenbachia bausei</i>       |
| <a href="#">dieffenbachia tachetée</a>                          | <i>Dieffenbachia maculata</i>     |
| <a href="#">dielytra à belles fleurs</a>                        | <i>Dicentra formosa</i>           |
| <a href="#">digitale pourpre</a>                                | <i>Digitalis purpurea</i>         |
| <a href="#">dirca des marais</a>                                | <i>Dirca palustris</i>            |
| <a href="#">érable rouge</a>                                    | <i>Acer rubrum</i>                |
| <a href="#">eupatoire rugueuse</a>                              | <i>Eupatorium rugosum</i>         |
| <a href="#">euphorbe cyprès</a>                                 | <i>Euphorbia cyparissias</i>      |
| <a href="#">euphorbe des jardins</a>                            | <i>Euphorbia peplus</i>           |
| <a href="#">euphorbe ésule</a>                                  | <i>Euphorbia esula</i>            |
| <a href="#">euphorbe effilée</a>                                | <i>Euphorbia tirucalli</i>        |
| <a href="#">euphorbe réveille-matin</a>                         | <i>Euphorbia helioscopia</i>      |
| <a href="#">fausse herbe à poux</a>                             | <i>Iva xanthifolia</i>            |
| <a href="#">fougère d'aigle</a>                                 | <i>Pteridium aquilinum</i>        |
| <a href="#">frêne puant</a>                                     | <i>Ailanthus altissima</i>        |
| <a href="#">fusain</a>  | <i>Euonymus atropurpureus</i>     |
| <a href="#">fusain d'Europe</a>                                 | <i>Euonymus europaeus</i>         |
| <a href="#">ginkgo</a>  | <i>Ginkgo biloba</i>              |
| <a href="#">glorieuse du Malabar</a>                            | <i>Gloriosa superba</i>           |
| <a href="#">glycérie géante</a>                                 | <i>Glyceria grandis</i>           |
| <a href="#">glycine du Japon</a>                                | <i>Wisteria floribunda</i>        |
| <a href="#">graines à chapelet</a>                              | <i>Caulophyllum thalictroides</i> |
| <a href="#">grande chélidoine</a>                               | <i>Chelidonium majus</i>          |
| <a href="#">grande oseille</a>                                  | <i>Rumex acetosa</i>              |
| <a href="#">gui de chêne</a>                                    | <i>Phoradendron flavescens</i>    |
| <a href="#">gutierrezie faux-sarothra</a>                       | <i>Gutierrezia sarothrae</i>      |
| <a href="#">hélénie automnale</a>                               | <i>Helenium autumnale</i>         |
| <a href="#">hélénie nudiflore</a>                               | <i>Helenium flexuosum</i>         |
| <a href="#">hélianthe annuel</a>                                | <i>Helianthus annuus</i>          |
| <a href="#">héliotrope obové de Curaçao</a>                     | <i>Heliotropium curassavicum</i>  |
| <a href="#">herbe à la puce</a>                                 | <i>Rhus radicans</i>              |

|   |                                  |
|---|----------------------------------|
| <a href="#">hortensia</a>                     | <i>Hydrangea macrophylla</i>     |
| <a href="#">houblon</a>                       | <i>Humulus lupulus</i>           |
| <a href="#">houx commun</a>                   | <i>Ilex aquifolium</i>           |
| <a href="#">houx d'Amérique</a>               | <i>Ilex opaca</i>                |
| <a href="#">hyménoxys de Richardson</a>       | <i>Hymenoxys richardsonii</i>    |
| <a href="#">if de l'Angleterre</a>            | <i>Taxus baccata</i>             |
| <a href="#">if du Canada</a>                  | <i>Taxus canadensis</i>          |
| <a href="#">if du Japon</a>                   | <i>Taxus cuspidata</i>           |
| <a href="#">indigo sauvage</a>                | <i>Baptisia tinctoria</i>        |
| <a href="#">iris de marais</a>                | <i>Iris pseudacorus</i>          |
| <a href="#">jacinthe des bois</a>             | <i>Hyacinthoides nonscripta</i>  |
| <a href="#">jonquille</a>                     | <i>Narcissus pseudonarcissus</i> |
| <a href="#">jusquiame noire</a>               | <i>Hyoscyamus niger</i>          |
| <a href="#">Kalanchoe</a>                     | <i>Kalanchoe daigremontiana</i>  |
| <a href="#">kalmia à feuilles d'andromède</a> | <i>Kalmia polifolia</i>          |
| <a href="#">kalmia à feuilles étroites</a>    | <i>Kalmia angustifolia</i>       |
| <a href="#">kochia à balais</a>               | <i>Kochia scoparia</i>           |
| <a href="#">laitue scariote</a>               | <i>Lactuca scariola</i>          |
| <a href="#">lampourde glouteron</a>           | <i>Xanthium strumarium</i>       |
| <a href="#">Lantana</a>                       | <i>Lantana camara</i>            |
| <a href="#">laportéa du Canada</a>            | <i>Laportea canadensis</i>       |
| <a href="#">laurier rose</a>                  | <i>Nerium oleander</i>           |
| <a href="#">lentil d'Espagne</a>              | <i>Lathyrus sativus</i>          |
| <a href="#">lierre commun</a>                 | <i>Hedera helix</i>              |
| <a href="#">lierre terrestre</a>              | <i>Glechoma hederacea</i>        |
| <a href="#">linaire vulgaire</a>              | <i>Linaria vulgaris</i>          |
| <a href="#">lis des Incas</a>                 | <i>Alstroemeria ligtu</i>        |
| <a href="#">liseron</a>                       | <i>Ipomoea tricolor</i>          |
| <a href="#">lobélie du cardinal</a>           | <i>Lobelia cardinalis</i>        |
| <a href="#">lobélie gonflée</a>               | <i>Lobelia inflata</i>           |
| <a href="#">lupin argenté</a>                 | <i>Lupinus argenteus</i>         |
| <a href="#">lupin de Burke</a>                | <i>Lupinus burkei</i>            |
| <a href="#">lupin de polyphylle</a>           | <i>Lupinus polyphyllus</i>       |
| <a href="#">lupin soyeux</a>                  | <i>Lupinus sericeus</i>          |
| <a href="#">Lupinus</a>                       | <i>Lupinus pusillus</i>          |
| <a href="#">luzerne</a>                       | <i>Medicago sativa</i>           |
| <a href="#">manguier</a>                      | <i>Mangifera indica</i>          |
| <a href="#">marronnier</a>                    | <i>Aesculus hippocastanum</i>    |
| <a href="#">marronnier à fleurs rouges</a>    | <i>Aesculus glabra</i>           |
| <a href="#">mélilot blanc</a>                 | <i>Melilotus alba</i>            |
| <a href="#">mélilot jaune</a>                 | <i>Melilotus officinalis</i>     |
| <a href="#">ménisperme du Canada</a>          | <i>Menispermum canadense</i>     |
| <a href="#">menziézie ferrugineuse</a>        | <i>Menziesia ferruginea</i>      |
| <a href="#">millepertuis perforé</a>          | <i>Hypericum perforatum</i>      |

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|--|------------------------------|
| <a href="#">morelle douce-amère</a>      | <i>Solanum dulcamara</i>     |
| <a href="#">morelle noire</a>            | <i>Solanum nigrum</i>        |
| <a href="#">mouron rouge</a>             | <i>Anagallis arvensis</i>    |
| <a href="#">moutarde de l'Inde</a>       | <i>Brassica juncea</i>       |
| <a href="#">moutarde des champs</a>      | <i>Sinapis arvensis</i>      |
| <a href="#">moutarde des oiseaux</a>     | <i>Brassica campestris</i>   |
| <a href="#">moutarde tanaïsie verte</a>  | <i>Descurainia pinnata</i>   |
| <a href="#">muguet</a>                   | <i>Convallaria majalis</i>   |
| <a href="#">narcisse</a>                 | <i>Narcissus poeticus</i>    |
| <a href="#">navette</a>                  | <i>Brassica napus</i>        |
| <a href="#">nerprun bourdaine</a>        | <i>Rhamnus frangula</i>      |
| <a href="#">nerprun commun</a>           | <i>Rhamnus cathartica</i>    |
| <a href="#">nielle</a>                   | <i>Agrostemma githago</i>    |
| <a href="#">noyer noir</a>               | <i>Juglans nigra</i>         |
| <a href="#">obier</a>                    | <i>Viburnum opulus</i>       |
| <a href="#">oignon</a>                   | <i>Allium cepa</i>           |
| <a href="#">onoclée sensible</a>         | <i>Onoclea sensibilis</i>    |
| <a href="#">ortie dioïque</a>            | <i>Urtica dioica</i>         |
| <a href="#">oxytropes de Lambert</a>     | <i>Oxytropis lambertii</i>   |
| <a href="#">Oxytropis</a>                | <i>Oxytropis sericea</i>     |
| <a href="#">panais sauvage</a>           | <i>Pastinaca sativa</i>      |
| <a href="#">pavot coquelicot</a>         | <i>Papaver rhoeas</i>        |
| <a href="#">pavot d'Islande</a>          | <i>Papaver nudicaule</i>     |
| <a href="#">pavot d'Orient</a>           | <i>Papaver orientale</i>     |
| <a href="#">pavot somnifère</a>          | <i>Papaver somniferum</i>    |
| <a href="#">perce-neige</a>              | <i>Galanthus nivalis</i>     |
| <a href="#">petite oseille</a>           | <i>Rumex acetosella</i>      |
| <a href="#">petit-prêcheur</a>           | <i>Arisaema triphyllum</i>   |
| <a href="#">phacélie de Californie</a>   | <i>Phacelia campanularia</i> |
| <a href="#">Philodendron cordatum</a>    | <i>Philodendron cordatum</i> |
| <a href="#">philodendron monstéra</a>    | <i>Monstera deliciosa</i>    |
| <a href="#">Philodendron (scandens)</a>  | <i>Philodendron scandens</i> |
| <a href="#">phytolaque d'Amérique</a>    | <i>Phytolacca americana</i>  |
| <a href="#">pied d'alouette bicolore</a> | <i>Delphinium bicolor</i>    |
| <a href="#">pied d'alouette glauque</a>  | <i>Delphinium glaucum</i>    |
| <a href="#">pin ponderosa</a>            | <i>Pinus ponderosa</i>       |
| <a href="#">podophylle pelté</a>         | <i>Podophyllum peltatum</i>  |
| <a href="#">poinsettia</a>               | <i>Euphorbia pulcherrima</i> |
| <a href="#">pois de senteur</a>          | <i>Lathyrus odoratus</i>     |
| <a href="#">pomme de terre</a>           | <i>Solanum tuberosum</i>     |
| <a href="#">prêle des champs</a>         | <i>Equisetum arvense</i>     |
| <a href="#">prêle des marais</a>         | <i>Equisetum palustre</i>    |
| <a href="#">primula</a>                  | <i>Primula obconica</i>      |
| <a href="#">radis</a>                    | <i>Raphanus sativus</i>      |

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|--|----------------------------------|
| <a href="#">radis sauvage</a>              | <i>Raphanus raphanistrum</i>     |
| <a href="#">raifort</a>                    | <i>A Armoracia rusticana</i>     |
| <a href="#">renoncule bulbeuse</a>         | <i>Ranunculus bulbosus</i>       |
| <a href="#">renoncule scélérate</a>        | <i>Ranunculus sceleratus</i>     |
| <a href="#">rhododendron de Californie</a> | <i>Rhododendron macrophyllum</i> |
| <a href="#">rhubarbe</a>                   | <i>Rheum rhaponticum</i>         |
| <a href="#">ricin</a>                      | <i>Ricinus communis</i>          |
| <a href="#">robinier faux-acacia</a>       | <i>Robinia pseudoacacia</i>      |
| <a href="#">rudbeckie hérissée</a>         | <i>Rudbeckia serotina</i>        |
| <a href="#">rudbeckie laciniée</a>         | <i>Rudbeckia laciniata</i>       |
| <a href="#">rumex veiné</a>                | <i>Rumex venosus</i>             |
| <a href="#">sarcobatus vermiculé</a>       | <i>Sarcobatus vermiculatus</i>   |
| <a href="#">sarrasin commun</a>            | <i>Fagopyrum esculentum</i>      |
| <a href="#">scille de Sibérie</a>          | <i>Scilla siberica</i>           |
| <a href="#">sénéçon jacobée</a>            | <i>Senecio jacobaea</i>          |
| <a href="#">sénéçon vulgaire</a>           | <i>Senecio vulgaris</i>          |
| <a href="#">Senecio</a>                    | <i>Senecio integerrimus</i>      |
| <a href="#">sorgho</a>                     | <i>Sorghum bicolor</i>           |
| <a href="#">sorgho d'Alep</a>              | <i>Sorghum halepense</i>         |
| <a href="#">sorgho du Soudan</a>           | <i>Sorghum sudanense</i>         |
| <a href="#">stramoine commune</a>          | <i>Datura stramonium</i>         |
| <a href="#">stramoine parfumée</a>         | <i>Datura innoxia</i>            |
| <a href="#">Suckleya</a>                   | <i>Suckleya suckleyana</i>       |
| <a href="#">sumac à vernis</a>             | <i>Rhus vernix</i>               |
| <a href="#">sumac de l'Ouest</a>           | <i>Rhus diversiloba</i>          |
| <a href="#">sureau blanc</a>               | <i>Sambucus canadensis</i>       |
| <a href="#">sureau noir</a>                | <i>Sambucus nigra</i>            |
| <a href="#">symphorine à grappes</a>       | <i>Symphoricarpos albus</i>      |
| <a href="#">tabac</a>                      | <i>Nicotiana tabacum</i>         |
| <a href="#">tabouret des champs</a>        | <i>Thlaspi arvense</i>           |
| <a href="#">tanaisie vulgaire</a>          | <i>Tanacetum vulgare</i>         |
| <a href="#">Thermopsis</a>                 | <i>Thermopsis rhombifolia</i>    |
| <a href="#">trèfle alsike</a>              | <i>Trifolium hybridum</i>        |
| <a href="#">trèfle blanc</a>               | <i>Trifolium repens</i>          |
| <a href="#">trèfle rouge</a>               | <i>Trifolium pratense</i>        |
| <a href="#">troène commun</a>              | <i>Ligustrum vulgare</i>         |
| <a href="#">trompette dorée</a>            | <i>Allamanda cathartica</i>      |
| <a href="#">troscart des marais</a>        | <i>Triglochin palustre</i>       |
| <a href="#">troscart maritime</a>          | <i>Triglochin maritima</i>       |
| <a href="#">tulipe</a>                     | <i>Tulipa gesneriana</i>         |
| <a href="#">varaie vert</a>                | <i>Veratrum viride</i>           |
| <a href="#">vélar fausse giroflée</a>      | <i>Erysimum cheiranthoides</i>   |
| <a href="#">verge d'or veloutée</a>        | <i>Solidago mollis</i>           |
| <a href="#">vesce cultivée</a>             | <i>Vicia sativa</i>              |

[vesce fève](#)

[vesce velue](#)

[vigne vierge](#)

[vipérine](#)

[zigadène élégant](#)

[zigadène vénéneux](#)

*Vicia faba*

*Vicia villosa*

*Parthenocissus quinquefolia*

*Echium vulgare*

*Zigadenus elegans*

*Zigadenus venenosus*

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[Avis important](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



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### ITIS

Biological name search

### Species Access

Canadian specimen information network

### Online mapping

### SpeciesBank

### FBIP



- [Site Index](#)
- [Navigating CBIF's web site](#)
- [Questions](#)

## Site Index

- [About the Canadian Biodiversity Information Facility](#)
- Databases
  - [Integrated Taxonomic Information System \(ITIS\)](#)
  - [Species Access](#)
    - [Ants, wasps, bees \(Hymenoptera\)](#)
    - [Aquatic Invertebrates](#)
    - [Birds \(Aves\)](#)
    - [Bumble bees](#)
    - [Butterflies \(Lepidoptera\)](#)
    - [Fish \(Agnatha, Chondrichthyes, Osteichthyes\)](#)
    - [Mammals \(Mammalia\)](#)
    - [Molluscs \(Mollusca\)](#)
    - [Mosquitoes](#)
    - [NatureServe including Rare and Endangered](#)
    - [Plants \(Plantae\)](#)
    - [Reptiles and amphibians \(Reptilia and Amphibia\)](#)
    - [Spiders \(Araneae\)](#)
- [Federal Biodiversity Information Partnership \(FBIP\)](#)
- [Online mapping tools for Biodiversity](#)
  - [Capture Coordinates](#)
  - [GBIF Web Map Service \(WMS\)](#)
  - [Map GBIF occurrence data](#)
  - [The Generic Point Mapper](#)
- [Reports and publications](#)
- [SpeciesBank](#)
  - [Brassicaceae of Canada](#)
  - [Butterflies of Canada](#)
  - [Canadian Poisonous Plants Information System](#)
  - [Diversity of Oribatid Mites in Canada](#)
  - [Ground Beetles of Canada](#)
  - [Moths of Canada](#)
  - Moths
    - [Noctuoidea of Eastern Canada](#)
    - [Noctuoidea of Western Canada](#)
    - [The Bombycoidea, Drepanoidea, Lasiocampoidea, and Mimallonoidea of Canada](#)
    - [The Geometroidea of Canada](#)

[The Moths of Canada in PDF format](#)

- Archives
  - [Biodiversity Knowledge and Innovation Network](#)
  - [The Biological Observations, Specimens and Collections Gateway](#)

### Navigating CBIF's web site

The navigation bar at the top of each page contains the following links. Text versions of these buttons are located at the bottom of every page. The black buttons are standard for all Government of Canada web sites.

- **Français** takes you to the French-language equivalent of any page you are on.
- **Contact us** tells you about additional ways to obtain information about CBIF and enables you to make comments and ask questions.
- **Help** brings you to the page you are reading right now!
- **Search** connects you with CanExplore, a search engine that allows you to search one or more federal information resources in the area of science and technology for sustainability.
- **Canada site** takes you to the Government of Canada Main Menu -the gateway to all federal government Internet resources.

The green buttons allow quick access to basic information about CBIF and its work.

- **Coming events** are announcements of conferences, workshops, seminars, etc., surrounding Canada's biodiversity strategy.
- **About CBIF** provides you with background information about the formation and purpose of CBIF.
- **Links** are to other organizations - in Canada and throughout the world -that are involved in biodiversity projects and policies.
- **Reports and publications** lists and describes reports of conferences, CBIF work plans, and other documents related to operations.
- **Home** will always return you to the main index page.

The graphic navigation links along the left side of every page represent the main functions of CBIF:

- **Species Access** allows you to search the databases of a number of participating organizations for scientific records of many species of animals and plants.
- **ITIS** is the name of Agriculture and Agri-Food Canada's taxonomic database. It provides the scientific nomenclature for most Canadian species as well as links that allow you to search the Internet for more information about those species.
- **The SpeciesBank** contains a variety of digital information



about individual species. Eventually it will contain information or links to information on every organism in Canada.

- FBIP is the Federal Biodiversity Information Partnership. This area of the web site serves people and organizations involved in developing Canada's biodiversity strategy.

## Questions

Still have questions? Send us your questions and comments at [cbif@agr.gc.ca](mailto:cbif@agr.gc.ca).

[Français](#) | [Contact Us](#) | [Help](#) | [Search](#) | [Canada Site](#)

[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date Modified: 2008-11-03

[Important Notices](#)



[Home](#) > Government of Canada Official Web Site

**Our Governance**

- [Governor General](#)
- [Prime Minister](#)
- [Parliament](#)
- [Supreme Court](#)
- [Government News](#)
- [About Government](#)

**Services**

- [Service Canada](#)
- [Canada Business](#)
- [Canada International](#)

**Resource Centre**

- [Contact Your Government](#)
- [Contact Your MP](#)
- [Departments and Agencies](#)
- [A to Z Index](#)
- [On-line Forms and Services](#)
- [Frequently Asked Questions](#)
- [What's New](#)
- [Publications and Reports](#)
- [About Canada](#)
- [Provinces and Territories](#)

**Stay In Touch**

- [RSS News Feeds](#)
- [Mobile Wireless Portal](#)
- [Tell Us What You Think](#)

**Accessibility Help**

- [Accessibility Features Statement](#)
- [Increasing Text Size](#)
- [Client-side CSS for enhancing](#)



**EMPLOYMENT INSURANCE EXTENSION TO SELF-EMPLOYED CANADIANS COMES INTO EFFECT: REPRESENTS ONE OF THE MOST SIGNIFICANT ENHANCEMENTS TO THE EI PROGRAM IN A DECADE**  
**1 February 2010**

As of January 31, self-employed Canadians are able to register for the Employment Insurance (EI) program, which will extend to them maternity, parental, sickness and compassionate care benefits, collectively called special benefits.

[\[ More \]](#)



**CANADA LEADS INTERNATIONAL EFFORTS TO REBUILD HAITI AT MONTREAL CONFERENCE**  
**25 January 2010**

Prime Minister Stephen Harper today rallied the international community to a strategic and coordinated effort to rebuild Haiti. The Prime Minister's call came during an address to delegates of the Ministerial Preparatory Conference on Haiti.

[\[ More \]](#)

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- [→ Weather Conditions](#)
- [→ Financial Benefits](#)
- [→ Jobs](#)
- [→ GST/HST Credit](#)
- [→ Employment Insurance](#)
- [→ Passport](#)
- [→ Taxes](#)
- [→ Immigration](#)
- [→ Social Insurance Number](#)
- [→ Old Age Security](#)
- [→ Starting a Business](#)
- [→ Canada Pension Plan](#)



**Features**

- [👉 Travelling to the U.S.?](#)
- [👉 Tax Credit for Public Transit](#)
- [👉 Write to Our Troops](#)
- [👉 GiC Appointments](#)
- [👉 Apprenticeship Grants](#)



**Did You Know...**

accessibility

→ [Replacing Personal Documents](#)

Proactive Disclosure

**Find Information About...**

finding a job

The best way to help the earthquake victims in Haiti is to donate money to experienced humanitarian organizations, not clothing or food.

[ [More](#) ]

Date Modified: 2010-02-02

  
[Top of Page](#)

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## Coming events

November 1-7, 2008 - Arusha (Tanzania)

### **GBIF Governing Board 15th Meeting - Arusha**

The 15th meeting of the Governing Board of GBIF will be hosted by Tanzania.

#### **ITIS**

Biological name search

#### **Species Access**

Canadian specimen  
information network

#### **Online mapping**

#### **SpeciesBank**

#### **FBIP**



[Français](#) | [Contact Us](#) | [Help](#) | [Search](#) | [Canada Site](#)

[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date Modified: 2008-08-26

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## About the Canadian Biodiversity Information Facility

### ITIS

Biological name search

### Species Access

Canadian specimen information network

### Online mapping

### SpeciesBank

### FBIP



- [Partners in the network](#)
- [Some of the problems that CBIF will address](#)
- [Reports and background information](#)

### Partners in CBIF

CBIF is made up of the four federal natural resource departments and other partners:

#### Federal Government Departments

- [Agriculture and Agri-Food Canada](#)
- [Environment Canada](#)
- [Health Canada](#)
- [Natural Resources Canada](#)

#### Other partners

- [Canadian Food Inspection Agency](#)
- [Canadian Museum of Nature](#)
- [Parks Canada](#)

[Français](#) | [Contact Us](#) | [Help](#) | [Search](#) | [Canada Site](#)

[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date Modified: 2006-05-18

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## Links

[ITIS](#)  
[Biological name search](#)

[Species Access](#)  
[Canadian specimen information network](#)

[Online mapping](#)

[SpeciesBank](#)

[FBIP](#)



- **Canadian Biodiversity Information Network (CBIN)** - CBIN is a node an international clearinghouse of information on biodiversity. Its goal is to provide information on Canadian biodiversity from ALL sectors. Explore Canadian environmental policy and agreements, technology, data, funding programs, web sites, upcoming events, reference material, expertise, and more.  
[<http://www.cbin.ec.gc.ca/search/default.cfm?lang=e>]
- **Plant Gene Resources of Canada** -Search the Genetic Resource Information Network, Canadian version. Canada uses a computerized database management system to assist in handling the massive amounts of data associated with the genetic resources. Researchers can learn about specific characteristics for each accession in the collection. All nodes interact with the database regularly, entering data, conducting searches and so on. Seed requests can also be made through the database.  
[[http://pgrc3.agr.gc.ca/search\\_grinca-recherche\\_rirgc\\_e.html](http://pgrc3.agr.gc.ca/search_grinca-recherche_rirgc_e.html)]
- **Consultation on FAO Treaty on Plant Genetic Resources** - Agriculture and Agri-Food Canada is soliciting comments on the FAO International Treaty on Plant Genetic Resources for Food and Agriculture leading to a decision on Canadian ratification and signature of the Treaty. The text of the Treaty, FAO Conference resolution, the text of the Canadian statement to the FAO Conference presented by Associate Deputy Minister Diane Vincent and some relevant communication information are presented for your consideration. Although the formal part of this consultation ended on March 31, 2002, your feedback is still welcome.  
[[http://pgrc3.agr.gc.ca/itpgrfa/index\\_e.html](http://pgrc3.agr.gc.ca/itpgrfa/index_e.html)]
- **Biodiversity: Connecting with the Tapestry of Life**, prepared by the Smithsonian Institution Monitoring and Assessment of Biodiversity Program  
[<http://www.si.edu/simab/> and click on link to view this publication in PDF format]
- **Global Biodiversity Information Facility** - "an interoperable network of biodiversity databases and information technology tools that will enable users to navigate and put to use the world's vast quantities of biodiversity information to produce national economic, environmental and social benefits."  
[<http://www.gbif.org/>]
- **Species Analyst** - A "community editable site" that contains documentation on the Species Analyst project, particularly for the various software components that make up the network.

[\[http://tsadev.speciesanalyst.net/documentation/ow.asp?TsaHome\]](http://tsadev.speciesanalyst.net/documentation/ow.asp?TsaHome)

- **World Biodiversity Information Network (REMIB), Mexico** - "a computerized biological information system (i.e., it includes databases of curatorial, taxonomic, ecological, cartographic, bibliographic, ethnobiological and use type, and catalogues of natural resources and other topics) based on a decentralized inter-institutional academic organization formed by research centers and universities, both public and private, that possess both scientific biological collections and information banks."  
[\[http://www.conabio.gob.mx/remib/doctos/remib\\_esp.html\]](http://www.conabio.gob.mx/remib/doctos/remib_esp.html)
- **National Biological Information Infrastructure (NBII), United States** -access to specimens and exhibits from museums around the world; newsletter; FrogWeb; and BioBot, the NBII's biological search engine.  
[\[http://www.nbi.gov/index.html\]](http://www.nbi.gov/index.html)
- **Ecoinformatics.org** - "online data and information management resource for ecologists" sponsored and developed by the Long Term Ecological Research Network and the National Center for Ecological Analysis and Synthesis.  
[\[http://www.ecoinformatics.org/\]](http://www.ecoinformatics.org/)

[Français](#) | [Contact Us](#) | [Help](#) | [Search](#) | [Canada Site](#)

[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date Modified: 2003-12-17

[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## Reports and publications

[ITIS](#)  
[Biological name search](#)

[Species Access](#)  
[Canadian specimen information network](#)

[Online mapping](#)

[SpeciesBank](#)

[FBIP](#)



*Toward a Biodiversity Knowledge and Innovation Network (BKIN) for Canada*

[If you would like a copy of a document, please send an email to: [CBIF](#) ]

Strategic Report from Canadian Biodiversity Network Conference, Ottawa March 1-4, 2001.



*Implementing a BKIN* [February 2002]

The need to formally "organize" the stakeholders into a "community" or "association" and how a BKIN Secretariat can manage that network, setting out the rationale for a biodiversity knowledge and innovation network and recommendations for its structure, mandate, and preliminary budget requirements.



*The Urgent Need for a BKIN* [February 2002]

Describes the impacts already being experienced by not having a well-functioning biodiversity knowledge and innovation network. These impacts also show where a BKIN could be useful to support decision-making in these areas.



*The Requirements for a BKIN* [February 2002]

This document indicates the infrastructure that is required to establish and maintain a strong biodiversity knowledge and innovation network.

*The Biota of Canada Information Network: Documenting and Analysing Canada's Living Capital for Science and Society*  
Final report on the inaugural workshop of the 5NR Biota of Canada Information Network project, Ottawa March 2-3, 2000.

[Français](#) | [Contact Us](#) | [Help](#) | [Search](#) | [Canada Site](#)

[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date Modified: 2008-11-04

[Important Notices](#)





| Français  | Contact us | Help  | Search                   | Canada site |
|---|------------|-------|--------------------------|-------------|
| Coming events                                     | About CBIF | Links | Reports and publications | Home        |
| <b>Canadian Biodiversity Information Facility</b> |            |       |                          |             |



## Canadian Biodiversity Information Facility (CBIF)

### ITIS Biological name search

As a member of the [Global Biodiversity Information Facility \(GBIF\)](#), Canada is exploring new ways to improve the organization, exchange, correlation, and availability of primary data on biological species of interest to Canadians. By enhancing access to these data, CBIF provides a valuable resource that supports a wide range of social and economic decisions including efforts to conserve our biodiversity in healthy ecosystems, use our biological resources in sustainable ways, and monitor and control pests and diseases.

### Species Access Canadian specimen information network

CBIF has developed the following tools to help users find the information they need.

### Online mapping

### SpeciesBank

### FBIP

### **Integrated Taxonomic Information System**



ITIS is a catalogue of common and scientific names that will eventually include all species found in Canada, the United States and Mexico. The database also contains synonyms.

Search results pages for individual species include the taxonomic hierarchy for the species (genus, order, family, etc.). They also provide links to search engines, automatically searching on the pertinent terms for the species you select.

### **Species Access Canada**

Species Access Canada is the Canadian component of a global project to allow Internet access to information associated with the billions of specimens housed in the world's natural history collections. The Canadian network currently incorporates collections on five servers; many more will be added over the next few years.

Users can search these collections by species name, source collection, collector, or location.

Note: If you have a specimen database you would like added to Species Access Canada, please contact [CBIF](#)

### **Online Mapping**

The CBIF team is providing a suite of online GIS applications that can be used to capture point coordinates for Canada, view and clean data point coordinates for Canada and the world and map GBIF occurrence data directly from the GBIF data portal.

### **SpeciesBank**

Butterflies of Canada is the pilot project in this section of CBIF's web site. Identifying information, photographs, distribution maps, and more are available for all butterflies found in Canada.

[Français](#) | [Contact Us](#) | [Help](#) | [Search](#) | [Canada Site](#)

[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date Modified: 2006-05-18

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Introduction - Canadian poisonous plants](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



- [Intended audience](#)
- [What the Information System does](#)
- [What the Information System does not do](#)
- [Illustrations](#)
- [Acknowledgments](#)
- [Project history](#)

The CANADIAN POISONOUS PLANTS INFORMATION SYSTEM presents data on plants that cause poisoning in livestock, pets, and humans. The plants include native, introduced, and cultivated outdoor plants as well as indoor plants that are found in Canada. Some food and herbal plants are also included that may cause potential poisoning problems.

Plant poisoning is caused by chemicals in plants that have undesirable effects upon animals and humans. Some poisons must be ingested whereas others, such as chemicals in poison-ivy, only require contact to elicit response in sensitive humans. Some chemicals must be modified before they are poisonous to animals, such as prunasin and other cyanogenic glycosides. These chemicals must be hydrolyzed by plant enzymes or by rumen organisms.

Plants that cause dermatitis are discussed in this program if the reactions are severe. The more obscure dermatologic plants are not included. For more information on plant-induced dermatitis [see Mitchell, J. C., Rook, A. 1979. [Botanical dermatology](#). Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.].

Other excluded plants are those that only cause mechanical injury, poisonous blue-green algae, and plants causing hay fever.

While the Information System is oriented primarily to a Canadian audience, much of the information is useful elsewhere. Certainly the plants grown in and around homes can be grown throughout the temperate regions of the world. Indeed, many house plants are tropical in origin. Other plant species included here have been introduced to North America as well as other temperate regions of the world. The information on the native plant species is applicable wherever they grow in North America.

Information included in this program has the following limitations:

- much literature on poisonous plants is anecdotal and therefore of limited reliability

- many plants are only mildly poisonous or cause symptoms in unusual circumstances such as when prodigious quantities of material have been consumed
- the author has attempted to find the most current literature available on each included plant species (up to the 1993 publishing date of the original document). However, in many cases, current information refers to works published early in that century.

[Français](#) | [Contact Us](#) | [Help](#) | [Search](#) | [Canada Site](#)

[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Canada: lists of poisonous plants](#)

---

### Introduction

**Choose one from each section**

### Interactive

**Choose one from section A**

### All poisonous plants by Botanical name

1. Common plant names.
2. Botanical (scientific plant) names.

### All poisonous plants by Common name

**Choose one from section B**

### Important WWW Poisonous Plants sites

1. Complete list of poisonous plants.
  2. Poisonous house plants only.
  3. Plants with Illustrations.
- 
4. Humans/Animals.
  5. Poisonous Plant Parts.
  6. Toxic chemicals.
  7. Distribution (by province).
  8. Symptoms.
  9. Plant family.
- 
10. Humans/Animals || Provincial Distribution.
  11. Poisonous Plant Parts || Provincial Distribution.
  12. Humans/Animals || Symptoms.



[Français](#) | [Contact Us](#) | [Help](#) | [Search](#) | [Canada Site](#)

[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date modified: 2009-09-01

[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [All poisonous plants](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



#### **Scientific name**

[Abrus precatorius](#)  
[Acer rubrum](#)  
[Aconitum napellus](#)  
[Aesculus glabra](#)  
[Aesculus hippocastanum](#)  
[Agrostemma githago](#)  
[Ailanthus altissima](#)  
[Allamanda cathartica](#)  
[Allium canadense](#)  
[Allium cepa](#)  
[Allium sativum](#)  
[Allium schoenoprasum](#)  
[Aloe arborescens](#)  
[Aloe barbadensis](#)  
[Alstroemeria ligtu](#)  
[Amaranthus blitoides](#)  
[Amaranthus hybridus](#)  
[Amaranthus retroflexus](#)  
[Amaryllis belladonna](#)  
[Amaryllis vittata](#)  
[Amelanchier alnifolia](#)  
[Amsinckia intermedia](#)  
[Anagallis arvensis](#)  
[Anthurium andraeanum](#)  
[Apocynum androsaemifolium](#)  
[Apocynum cannabinum](#)  
[Arisaema triphyllum](#)  
[Armoracia rusticana](#)  
[Asarum canadense](#)  
[Asclepias speciosa](#)  
[Asclepias syriaca](#)  
[Asclepias verticillata](#)  
[Asimina triloba](#)  
[Astragalus adsurgens](#)

#### **[Common name](#)**

precatory-pea  
red maple  
monk's hood  
Ohio buckeye  
horse-chestnut  
purple cockle  
tree-of-heaven  
golden-trumpet  
wild onion  
onion  
garlic  
chives  
candalabra aloe  
aloe - A. barbadensis  
Peruvian lily  
prostrate pigweed  
smooth pigweed  
redroot pigweed  
amaryllis (A. belladonna)  
amaryllis (A. vittata)  
Saskatoon (a serviceberry)  
fiddleneck  
scarlet pimpernel  
flamingo lily  
spreading dogbane  
hemp dogbane  
Jack-in-the-pulpit  
horseradish  
wild ginger  
showy milkweed  
common milkweed  
eastern whorled milkweed  
pawpaw  
Astragalus (A. adsurgens)

|  |                              |
|--|------------------------------|
| <a href="#"><i>Astragalus bisulcatus</i></a>       | two-grooved milk-vetch       |
| <a href="#"><i>Astragalus canadensis</i></a>       | Canadian milk-vetch          |
| <a href="#"><i>Astragalus lentiginosus</i></a>     | Astragalus (A. lentiginosus) |
| <a href="#"><i>Astragalus miser</i></a>            | timber milk-vetch            |
| <a href="#"><i>Avena sativa</i></a>                | oats                         |
| <a href="#"><i>Baptisia leucantha</i></a>          | wild false indigo            |
| <a href="#"><i>Baptisia tinctoria</i></a>          | wild indigo                  |
| <a href="#"><i>Barbarea vulgaris</i></a>           | yellow rocket                |
| <a href="#"><i>Bassia hyssopifolia</i></a>         | five-hooked bassia           |
| <a href="#"><i>Brassaia actinophylla</i></a>       | Australian umbrella tree     |
| <a href="#"><i>Brassica campestris</i></a>         | bird rape                    |
| <a href="#"><i>Brassica juncea</i></a>             | Indian mustard               |
| <a href="#"><i>Brassica napus</i></a>              | rapeseed                     |
| <a href="#"><i>Brassica oleracea</i></a>           | wild cabbage                 |
| <a href="#"><i>Caladium bicolor</i></a>            | caladium                     |
| <a href="#"><i>Calla palustris</i></a>             | wild calla                   |
| <a href="#"><i>Cannabis sativa</i></a>             | marijuana                    |
| <a href="#"><i>Caulophyllum thalictroides</i></a>  | blue cohosh                  |
| <a href="#"><i>Centaurea repens</i></a>            | Russian knapweed             |
| <a href="#"><i>Centaurea solstitialis</i></a>      | yellow star-thistle          |
| <a href="#"><i>Ceratocephalus testiculatus</i></a> | bur buttercup                |
| <a href="#"><i>Chelidonium majus</i></a>           | greater celandine            |
| <a href="#"><i>Chenopodium album</i></a>           | lamb's-quarters              |
| <a href="#"><i>Chrysanthemum indicum</i></a>       | chrysanthemum                |
| <a href="#"><i>Chrysothamnus nauseosus</i></a>     | stinking rabbitbrush         |
| <a href="#"><i>Cicuta douglasii</i></a>            | western water-hemlock        |
| <a href="#"><i>Cicuta maculata</i></a>             | spotted water-hemlock        |
| <a href="#"><i>Cicuta virosa</i></a>               | northern water-hemlock       |
| <a href="#"><i>Clivia miniata</i></a>              | Kaffir lily                  |
| <a href="#"><i>Codiaeum variegatum</i></a>         | croton                       |
| <a href="#"><i>Colchicum autumnale</i></a>         | autumn crocus                |
| <a href="#"><i>Conium maculatum</i></a>            | poison-hemlock               |
| <a href="#"><i>Convallaria majalis</i></a>         | lily-of-the-valley           |
| <a href="#"><i>Cyclamen persicum</i></a>           | cyclamen                     |
| <a href="#"><i>Cynoglossum officinale</i></a>      | hound's tongue               |
| <a href="#"><i>Cypripedium acaule</i></a>          | pink lady's-slipper          |
| <a href="#"><i>Cypripedium calceolus</i></a>       | yellow lady's-slipper        |
| <a href="#"><i>Cypripedium reginae</i></a>         | showy lady's-slipper         |
| <a href="#"><i>Daphne cneorum</i></a>              | garland daphne               |
| <a href="#"><i>Daphne laureola</i></a>             | spurge-laurel                |
| <a href="#"><i>Daphne mezereum</i></a>             | February daphne              |
| <a href="#"><i>Datura innoxia</i></a>              | angel's trumpet              |
| <a href="#"><i>Datura stramonium</i></a>           | jimsonweed                   |
| <a href="#"><i>Delphinium bicolor</i></a>          | low larkspur                 |

|   |                             |
|---|-----------------------------|
| <a href="#"><u><i>Delphinium glaucum</i></u></a>        | tall larkspur               |
| <a href="#"><u><i>Delphinium menziesii</i></u></a>      | Menzies larkspur            |
| <a href="#"><u><i>Descurainia pinnata</i></u></a>       | green tansy mustard         |
| <a href="#"><u><i>Dicentra canadensis</i></u></a>       | squirrel-corn               |
| <a href="#"><u><i>Dicentra cucullaria</i></u></a>       | Dutchman's-breeches         |
| <a href="#"><u><i>Dicentra formosa</i></u></a>          | western bleedingheart       |
| <a href="#"><u><i>Dictamnus albus</i></u></a>           | gas plant                   |
| <a href="#"><u><i>Dieffenbachia amoena</i></u></a>      | giant dumbcane              |
| <a href="#"><u><i>Dieffenbachia bausei</i></u></a>      | dumbcane                    |
| <a href="#"><u><i>Dieffenbachia maculata</i></u></a>    | spotted dumbcane            |
| <a href="#"><u><i>Dieffenbachia seguine</i></u></a>     | mother-in-law plant         |
| <a href="#"><u><i>Digitalis purpurea</i></u></a>        | foxglove                    |
| <a href="#"><u><i>Dirca palustris</i></u></a>           | leatherwood                 |
| <a href="#"><u><i>Echium vulgare</i></u></a>            | blueweed                    |
| <a href="#"><u><i>Equisetum arvense</i></u></a>         | field horsetail             |
| <a href="#"><u><i>Equisetum palustre</i></u></a>        | marsh horsetail             |
| <a href="#"><u><i>Erysimum cheiranthoides</i></u></a>   | wormseed mustard            |
| <a href="#"><u><i>Euonymus atropurpureus</i></u></a>    | burningbush                 |
| <a href="#"><u><i>Euonymus europaeus</i></u></a>        | European spindletree        |
| <a href="#"><u><i>Eupatorium rugosum</i></u></a>        | white snakeroot             |
| <a href="#"><u><i>Euphorbia cyparissias</i></u></a>     | cypress spurge              |
| <a href="#"><u><i>Euphorbia esula</i></u></a>           | leafy spurge                |
| <a href="#"><u><i>Euphorbia helioscopia</i></u></a>     | sun spurge                  |
| <a href="#"><u><i>Euphorbia lactea</i></u></a>          | candelabra-cactus           |
| <a href="#"><u><i>Euphorbia lathyris</i></u></a>        | caper spurge                |
| <a href="#"><u><i>Euphorbia milii</i></u></a>           | crown-of-thorns             |
| <a href="#"><u><i>Euphorbia peplus</i></u></a>          | petty spurge                |
| <a href="#"><u><i>Euphorbia pulcherrima</i></u></a>     | poinsettia                  |
| <a href="#"><u><i>Euphorbia tirucalli</i></u></a>       | penciltree                  |
| <a href="#"><u><i>Fagopyrum esculentum</i></u></a>      | buckwheat                   |
| <a href="#"><u><i>Galanthus nivalis</i></u></a>         | snowdrop                    |
| <a href="#"><u><i>Ginkgo biloba</i></u></a>             | maidenhair tree             |
| <a href="#"><u><i>Glechoma hederacea</i></u></a>        | ground-ivy                  |
| <a href="#"><u><i>Gloriosa superba</i></u></a>          | glory lily                  |
| <a href="#"><u><i>Glyceria grandis</i></u></a>          | tall manna grass            |
| <a href="#"><u><i>Gutierrezia sarothrae</i></u></a>     | broom snakeweed             |
| <a href="#"><u><i>Gymnocladus dioicus</i></u></a>       | Kentucky coffeetree         |
| <a href="#"><u><i>Hedera helix</i></u></a>              | English ivy                 |
| <a href="#"><u><i>Helenium autumnale</i></u></a>        | sneezeweed                  |
| <a href="#"><u><i>Helenium flexuosum</i></u></a>        | naked-flowered sneezeweed   |
| <a href="#"><u><i>Helianthus annuus</i></u></a>         | sunflower                   |
| <a href="#"><u><i>Heliotropium curassavicum</i></u></a> | spatulate-leaved heliotrope |
| <a href="#"><u><i>Heracleum mantegazzianum</i></u></a>  | giant hogweed               |
| <a href="#"><u><i>Humulus lupulus</i></u></a>           | common hop                  |



|   |                       |
|---|-----------------------|
| <a href="#"><i>Hyacinthoides nonscripta</i></a> | English bluebell      |
| <a href="#"><i>Hydrangea macrophylla</i></a>    | hydrangea             |
| <a href="#"><i>Hymenoxys richardsonii</i></a>   | Colorado rubberweed   |
| <a href="#"><i>Hyoscyamus niger</i></a>         | black henbane         |
| <a href="#"><i>Hypericum perforatum</i></a>     | St. John's-wort       |
| <a href="#"><i>Ilex aquifolium</i></a>          | English holly         |
| <a href="#"><i>Ilex opaca</i></a>               | American holly        |
| <a href="#"><i>Ipomoea tricolor</i></a>         | morning glory         |
| <a href="#"><i>Iris pseudacorus</i></a>         | yellow iris           |
| <a href="#"><i>Iris versicolor</i></a>          | blue flag iris        |
| <a href="#"><i>Iva xanthifolia</i></a>          | false ragweed         |
| <a href="#"><i>Juglans nigra</i></a>            | black walnut          |
| <a href="#"><i>Kalanchoe daigremontiana</i></a> | Devil's-backbone      |
| <a href="#"><i>Kalmia angustifolia</i></a>      | sheep-laurel          |
| <a href="#"><i>Kalmia polifolia</i></a>         | bog-laurel            |
| <a href="#"><i>Kochia scoparia</i></a>          | kochia                |
| <a href="#"><i>Laburnum anagyroides</i></a>     | golden-chain          |
| <a href="#"><i>Lactuca scariola</i></a>         | prickly lettuce       |
| <a href="#"><i>Lantana camara</i></a>           | yellow sage           |
| <a href="#"><i>Laportea canadensis</i></a>      | Canada nettle         |
| <a href="#"><i>Lathyrus odoratus</i></a>        | sweet pea             |
| <a href="#"><i>Lathyrus sativus</i></a>         | grass pea             |
| <a href="#"><i>Leonurus cardiaca</i></a>        | motherwort            |
| <a href="#"><i>Ligustrum vulgare</i></a>        | common privet         |
| <a href="#"><i>Linaria vulgaris</i></a>         | yellow toadflax       |
| <a href="#"><i>Lobelia cardinalis</i></a>       | cardinalflower        |
| <a href="#"><i>Lobelia inflata</i></a>          | Indian-tobacco        |
| <a href="#"><i>Lobelia siphilitica</i></a>      | blue cardinalflower   |
| <a href="#"><i>Lonicera tatarica</i></a>        | Tartarian honeysuckle |
| <a href="#"><i>Lonicera xylosteum</i></a>       | fly honeysuckle       |
| <a href="#"><i>Lupinus argenteus</i></a>        | silvery lupine        |
| <a href="#"><i>Lupinus burkei</i></a>           | Burke's lupine        |
| <a href="#"><i>Lupinus polyphyllus</i></a>      | large-leaved lupine   |
| <a href="#"><i>Lupinus pusillus</i></a>         | small lupine          |
| <a href="#"><i>Lupinus sericeus</i></a>         | silky lupine          |
| <a href="#"><i>Maclura pomifera</i></a>         | Osage-orange          |
| <a href="#"><i>Mangifera indica</i></a>         | mango                 |
| <a href="#"><i>Medicago sativa</i></a>          | alfalfa               |
| <a href="#"><i>Melilotus alba</i></a>           | white sweet-clover    |
| <a href="#"><i>Melilotus officinalis</i></a>    | yellow sweet-clover   |
| <a href="#"><i>Menispermum canadense</i></a>    | moonseed              |
| <a href="#"><i>Menziesia ferruginea</i></a>     | western minniebush    |
| <a href="#"><i>Monstera deliciosa</i></a>       | Swiss-cheese plant    |
| <a href="#"><i>Narcissus poeticus</i></a>       | narcissus             |

|   |                                       |
|---|---------------------------------------|
| <a href="#"><u><i>Narcissus pseudonarcissus</i></u></a>   | daffodil                              |
| <a href="#"><u><i>Nerium oleander</i></u></a>             | oleander                              |
| <a href="#"><u><i>Nicotiana tabacum</i></u></a>           | tobacco                               |
| <a href="#"><u><i>Onoclea sensibilis</i></u></a>          | sensitive fern                        |
| <a href="#"><u><i>Ornithogalum umbellatum</i></u></a>     | star-of-Bethlehem                     |
| <a href="#"><u><i>Oxytropis lambertii</i></u></a>         | purple locoweed                       |
| <a href="#"><u><i>Oxytropis sericea</i></u></a>           | locoweed ( <i>Oxytropis sericea</i> ) |
| <a href="#"><u><i>Papaver nudicaule</i></u></a>           | Iceland poppy                         |
| <a href="#"><u><i>Papaver orientale</i></u></a>           | Oriental poppy                        |
| <a href="#"><u><i>Papaver rhoeas</i></u></a>              | corn poppy                            |
| <a href="#"><u><i>Papaver somniferum</i></u></a>          | opium poppy                           |
| <a href="#"><u><i>Parthenocissus quinquefolia</i></u></a> | Virginia creeper                      |
| <a href="#"><u><i>Pastinaca sativa</i></u></a>            | wild parsnip                          |
| <a href="#"><u><i>Persea americana</i></u></a>            | avocado                               |
| <a href="#"><u><i>Phacelia campanularia</i></u></a>       | California bluebell                   |
| <a href="#"><u><i>Phalaris arundinacea</i></u></a>        | reed canarygrass                      |
| <a href="#"><u><i>Philodendron cordatum</i></u></a>       | philodendron                          |
| <a href="#"><u><i>Philodendron scandens</i></u></a>       | heart-leaved philodendron             |
| <a href="#"><u><i>Phoradendron flavescens</i></u></a>     | American mistletoe                    |
| <a href="#"><u><i>Physalis alkekengi</i></u></a>          | Chinese-lantern                       |
| <a href="#"><u><i>Physalis peruviana</i></u></a>          | ground-cherry                         |
| <a href="#"><u><i>Phytolacca americana</i></u></a>        | pokeweed                              |
| <a href="#"><u><i>Pinus ponderosa</i></u></a>             | ponderosa pine                        |
| <a href="#"><u><i>Podophyllum peltatum</i></u></a>        | May-apple                             |
| <a href="#"><u><i>Primula obconica</i></u></a>            | primula                               |
| <a href="#"><u><i>Prunus pensylvanica</i></u></a>         | pin cherry                            |
| <a href="#"><u><i>Prunus serotina</i></u></a>             | black cherry                          |
| <a href="#"><u><i>Prunus virginiana</i></u></a>           | red chokecherry                       |
| <a href="#"><u><i>Pteridium aquilinum</i></u></a>         | bracken                               |
| <a href="#"><u><i>Quercus alba</i></u></a>                | white oak                             |
| <a href="#"><u><i>Quercus rubra</i></u></a>               | red oak                               |
| <a href="#"><u><i>Quercus velutina</i></u></a>            | black oak                             |
| <a href="#"><u><i>Ranunculus bulbosus</i></u></a>         | bulbous buttercup                     |
| <a href="#"><u><i>Ranunculus sceleratus</i></u></a>       | celery-leaved buttercup               |
| <a href="#"><u><i>Raphanus raphanistrum</i></u></a>       | wild radish                           |
| <a href="#"><u><i>Raphanus sativus</i></u></a>            | radish                                |
| <a href="#"><u><i>Rhamnus cathartica</i></u></a>          | European buckthorn                    |
| <a href="#"><u><i>Rhamnus frangula</i></u></a>            | alder buckthorn                       |
| <a href="#"><u><i>Rheum rhaponticum</i></u></a>           | rhubarb                               |
| <a href="#"><u><i>Rhododendron albiflorum</i></u></a>     | white rose-bay                        |
| <a href="#"><u><i>Rhododendron macrophyllum</i></u></a>   | California rose-bay                   |
| <a href="#"><u><i>Rhus diversiloba</i></u></a>            | western poison-oak                    |
| <a href="#"><u><i>Rhus radicans</i></u></a>               | poison ivy                            |
| <a href="#"><u><i>Rhus vernix</i></u></a>                 | poison sumac                          |

|   |                         |
|---|-------------------------|
| <a href="#"><u><i>Ricinus communis</i></u></a>        | castor-bean             |
| <a href="#"><u><i>Robinia pseudoacacia</i></u></a>    | black locust            |
| <a href="#"><u><i>Rudbeckia laciniata</i></u></a>     | cut-leaved coneflower   |
| <a href="#"><u><i>Rudbeckia serotina</i></u></a>      | black-eyed Susan        |
| <a href="#"><u><i>Rumex acetosa</i></u></a>           | garden-sorrel           |
| <a href="#"><u><i>Rumex acetosella</i></u></a>        | sheep sorrel            |
| <a href="#"><u><i>Rumex venosus</i></u></a>           | veined dock             |
| <a href="#"><u><i>Sambucus canadensis</i></u></a>     | American elder          |
| <a href="#"><u><i>Sambucus nigra</i></u></a>          | European elder          |
| <a href="#"><u><i>Sarcobatus vermiculatus</i></u></a> | greasewood              |
| <a href="#"><u><i>Scilla siberica</i></u></a>         | Siberian scilla         |
| <a href="#"><u><i>Senecio integerrimus</i></u></a>    | entire-leaved groundsel |
| <a href="#"><u><i>Senecio jacobaea</i></u></a>        | tansy ragwort           |
| <a href="#"><u><i>Senecio vulgaris</i></u></a>        | common groundsel        |
| <a href="#"><u><i>Sinapis arvensis</i></u></a>        | wild mustard            |
| <a href="#"><u><i>Solanum dulcamara</i></u></a>       | climbing nightshade     |
| <a href="#"><u><i>Solanum nigrum</i></u></a>          | black nightshade        |
| <a href="#"><u><i>Solanum pseudocapsicum</i></u></a>  | Jerusalem-cherry        |
| <a href="#"><u><i>Solanum tuberosum</i></u></a>       | potato                  |
| <a href="#"><u><i>Solidago mollis</i></u></a>         | velvety goldenrod       |
| <a href="#"><u><i>Sorghum bicolor</i></u></a>         | Sorghum                 |
| <a href="#"><u><i>Sorghum halepense</i></u></a>       | Johnson grass           |
| <a href="#"><u><i>Sorghum sudanense</i></u></a>       | Sudan grass             |
| <a href="#"><u><i>Suckleya suckleyana</i></u></a>     | poison suckleya         |
| <a href="#"><u><i>Symphoricarpos albus</i></u></a>    | thin-leaved snowberry   |
| <a href="#"><u><i>Symphytum asperum</i></u></a>       | prickly comfrey         |
| <a href="#"><u><i>Symphytum officinale</i></u></a>    | common comfrey          |
| <a href="#"><u><i>Symplocarpus foetidus</i></u></a>   | skunk cabbage           |
| <a href="#"><u><i>Tanacetum vulgare</i></u></a>       | tansy                   |
| <a href="#"><u><i>Taxus baccata</i></u></a>           | English yew             |
| <a href="#"><u><i>Taxus canadensis</i></u></a>        | Canada yew              |
| <a href="#"><u><i>Taxus cuspidata</i></u></a>         | Japanese yew            |
| <a href="#"><u><i>Thermopsis rhombifolia</i></u></a>  | golden-bean             |
| <a href="#"><u><i>Thlaspi arvense</i></u></a>         | stinkweed               |
| <a href="#"><u><i>Trifolium hybridum</i></u></a>      | alsike clover           |
| <a href="#"><u><i>Trifolium pratense</i></u></a>      | red clover              |
| <a href="#"><u><i>Trifolium repens</i></u></a>        | white clover            |
| <a href="#"><u><i>Triglochin maritima</i></u></a>     | seaside arrow-grass     |
| <a href="#"><u><i>Triglochin palustre</i></u></a>     | marsh arrow-grass       |
| <a href="#"><u><i>Tulipa gesneriana</i></u></a>       | tulip                   |
| <a href="#"><u><i>Urtica dioica</i></u></a>           | stinging nettle         |
| <a href="#"><u><i>Veratrum viride</i></u></a>         | false hellebore         |
| <a href="#"><u><i>Viburnum opulus</i></u></a>         | Guelder-rose            |
| <a href="#"><u><i>Vicia faba</i></u></a>              | broad bean              |

|   |                   |
|---|-------------------|
| <a href="#"><u><i>Vicia sativa</i></u></a>        | common vetch      |
| <a href="#"><u><i>Vicia villosa</i></u></a>       | hairy vetch       |
| <a href="#"><u><i>Wisteria floribunda</i></u></a> | Japanese wisteria |
| <a href="#"><u><i>Xanthium strumarium</i></u></a> | cocklebur         |
| <a href="#"><u><i>Zigadenus elegans</i></u></a>   | white camas       |
| <a href="#"><u><i>Zigadenus venenosus</i></u></a> | death camas       |

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|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
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## [Poisonous Plants sites](#)

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### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



### **General Poisonous Plant sites**

- [USDA/ARS Poisonous Plants Research Laboratory](#), Logan, Utah
- [Cornell University Poisonous Plants Page](#)
- [Poisonous Plant Databases](#)
- [Dermatology Database](#)

### **Poisonous plants by Geographical Region**

#### **North America**

- [Canadian Poisonous Plants Information System](#)
- [Guide to Poisonous Plants](#) - Colorado State University
- [Indiana plants poisonous to livestock and pets](#)
- [Poisonous Plants of North Carolina](#)
- [Nova Scotia](#) - Poisonous plants and Poisonous fungi [illustrated]
- [Ostrich Fern Poisoning](#)
- [Plants toxic to animals](#) [University of Illinois]
- [PLANTOX - American bibliographic Poisonous plants database.](#)
- [Poisonous Plants Home Page](#) - University of Pennsylvania
- [Poisonous Plants of the southeastern United States](#)

### **Other related resources**

#### **Veterinarians**

- [NetVet](#)

#### **Medical Doctors/Poison Control**

- [MIC-KIBIC Karolinska Institute](#) Extensive list of general poisoning WWW sites.
- [Dermatology Online Atlas](#)

#### **Toxic Chemicals**

- [Phytochemical and Ethnobotanical databases](#) -- plants ranked by chemical content
  - [Foodborne Pathogenic Microorganisms and Natural Toxins](#) USDA
-

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|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
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### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

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by  
Derek B. Munro  
Biological Informatics Specialist

- [Introduction](#)
  - [Interactive search](#)
  - [All poisonous plants by Botanical name](#)
  - [All poisonous plants by Common name](#)
  - [Important WWW Poisonous Plants sites](#)
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Date modified: 2009-09-01

[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
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## [All poisonous plants](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



#### **Scientific name**

[Abrus precatorius](#)  
[Acer rubrum](#)  
[Aconitum napellus](#)  
[Aesculus glabra](#)  
[Aesculus hippocastanum](#)  
[Agrostemma githago](#)  
[Ailanthus altissima](#)  
[Allamanda cathartica](#)  
[Allium canadense](#)  
[Allium cepa](#)  
[Allium sativum](#)  
[Allium schoenoprasum](#)  
[Aloe arborescens](#)  
[Aloe barbadensis](#)  
[Alstroemeria ligtu](#)  
[Amaranthus blitoides](#)  
[Amaranthus hybridus](#)  
[Amaranthus retroflexus](#)  
[Amaryllis belladonna](#)  
[Amaryllis vittata](#)  
[Amelanchier alnifolia](#)  
[Amsinckia intermedia](#)  
[Anagallis arvensis](#)  
[Anthurium andraeanum](#)  
[Apocynum androsaemifolium](#)  
[Apocynum cannabinum](#)  
[Arisaema triphyllum](#)  
[Armoracia rusticana](#)  
[Asarum canadense](#)  
[Asclepias speciosa](#)  
[Asclepias syriaca](#)  
[Asclepias verticillata](#)  
[Asimina triloba](#)  
[Astragalus adsurgens](#)

#### **[Common name](#)**

precatory-pea  
red maple  
monk's hood  
Ohio buckeye  
horse-chestnut  
purple cockle  
tree-of-heaven  
golden-trumpet  
wild onion  
onion  
garlic  
chives  
candalabra aloe  
aloe - A. barbadensis  
Peruvian lily  
prostrate pigweed  
smooth pigweed  
redroot pigweed  
amaryllis (A. belladonna)  
amaryllis (A. vittata)  
Saskatoon (a serviceberry)  
fiddleneck  
scarlet pimpernel  
flamingo lily  
spreading dogbane  
hemp dogbane  
Jack-in-the-pulpit  
horseradish  
wild ginger  
showy milkweed  
common milkweed  
eastern whorled milkweed  
pawpaw  
Astragalus (A. adsurgens)



|  |                              |
|--|------------------------------|
| <a href="#"><i>Astragalus bisulcatus</i></a>       | two-grooved milk-vetch       |
| <a href="#"><i>Astragalus canadensis</i></a>       | Canadian milk-vetch          |
| <a href="#"><i>Astragalus lentiginosus</i></a>     | Astragalus (A. lentiginosus) |
| <a href="#"><i>Astragalus miser</i></a>            | timber milk-vetch            |
| <a href="#"><i>Avena sativa</i></a>                | oats                         |
| <a href="#"><i>Baptisia leucantha</i></a>          | wild false indigo            |
| <a href="#"><i>Baptisia tinctoria</i></a>          | wild indigo                  |
| <a href="#"><i>Barbarea vulgaris</i></a>           | yellow rocket                |
| <a href="#"><i>Bassia hyssopifolia</i></a>         | five-hooked bassia           |
| <a href="#"><i>Brassaia actinophylla</i></a>       | Australian umbrella tree     |
| <a href="#"><i>Brassica campestris</i></a>         | bird rape                    |
| <a href="#"><i>Brassica juncea</i></a>             | Indian mustard               |
| <a href="#"><i>Brassica napus</i></a>              | rapeseed                     |
| <a href="#"><i>Brassica oleracea</i></a>           | wild cabbage                 |
| <a href="#"><i>Caladium bicolor</i></a>            | caladium                     |
| <a href="#"><i>Calla palustris</i></a>             | wild calla                   |
| <a href="#"><i>Cannabis sativa</i></a>             | marijuana                    |
| <a href="#"><i>Caulophyllum thalictroides</i></a>  | blue cohosh                  |
| <a href="#"><i>Centaurea repens</i></a>            | Russian knapweed             |
| <a href="#"><i>Centaurea solstitialis</i></a>      | yellow star-thistle          |
| <a href="#"><i>Ceratocephalus testiculatus</i></a> | bur buttercup                |
| <a href="#"><i>Chelidonium majus</i></a>           | greater celandine            |
| <a href="#"><i>Chenopodium album</i></a>           | lamb's-quarters              |
| <a href="#"><i>Chrysanthemum indicum</i></a>       | chrysanthemum                |
| <a href="#"><i>Chrysothamnus nauseosus</i></a>     | stinking rabbitbrush         |
| <a href="#"><i>Cicuta douglasii</i></a>            | western water-hemlock        |
| <a href="#"><i>Cicuta maculata</i></a>             | spotted water-hemlock        |
| <a href="#"><i>Cicuta virosa</i></a>               | northern water-hemlock       |
| <a href="#"><i>Clivia miniata</i></a>              | Kaffir lily                  |
| <a href="#"><i>Codiaeum variegatum</i></a>         | croton                       |
| <a href="#"><i>Colchicum autumnale</i></a>         | autumn crocus                |
| <a href="#"><i>Conium maculatum</i></a>            | poison-hemlock               |
| <a href="#"><i>Convallaria majalis</i></a>         | lily-of-the-valley           |
| <a href="#"><i>Cyclamen persicum</i></a>           | cyclamen                     |
| <a href="#"><i>Cynoglossum officinale</i></a>      | hound's tongue               |
| <a href="#"><i>Cypripedium acaule</i></a>          | pink lady's-slipper          |
| <a href="#"><i>Cypripedium calceolus</i></a>       | yellow lady's-slipper        |
| <a href="#"><i>Cypripedium reginae</i></a>         | showy lady's-slipper         |
| <a href="#"><i>Daphne cneorum</i></a>              | garland daphne               |
| <a href="#"><i>Daphne laureola</i></a>             | spurge-laurel                |
| <a href="#"><i>Daphne mezereum</i></a>             | February daphne              |
| <a href="#"><i>Datura innoxia</i></a>              | angel's trumpet              |
| <a href="#"><i>Datura stramonium</i></a>           | jimsonweed                   |
| <a href="#"><i>Delphinium bicolor</i></a>          | low larkspur                 |

|   |                             |
|---|-----------------------------|
| <a href="#"><u><i>Delphinium glaucum</i></u></a>        | tall larkspur               |
| <a href="#"><u><i>Delphinium menziesii</i></u></a>      | Menzies larkspur            |
| <a href="#"><u><i>Descurainia pinnata</i></u></a>       | green tansy mustard         |
| <a href="#"><u><i>Dicentra canadensis</i></u></a>       | squirrel-corn               |
| <a href="#"><u><i>Dicentra cucullaria</i></u></a>       | Dutchman's-breeches         |
| <a href="#"><u><i>Dicentra formosa</i></u></a>          | western bleedingheart       |
| <a href="#"><u><i>Dictamnus albus</i></u></a>           | gas plant                   |
| <a href="#"><u><i>Dieffenbachia amoena</i></u></a>      | giant dumbcane              |
| <a href="#"><u><i>Dieffenbachia bausei</i></u></a>      | dumbcane                    |
| <a href="#"><u><i>Dieffenbachia maculata</i></u></a>    | spotted dumbcane            |
| <a href="#"><u><i>Dieffenbachia seguine</i></u></a>     | mother-in-law plant         |
| <a href="#"><u><i>Digitalis purpurea</i></u></a>        | foxglove                    |
| <a href="#"><u><i>Dirca palustris</i></u></a>           | leatherwood                 |
| <a href="#"><u><i>Echium vulgare</i></u></a>            | blueweed                    |
| <a href="#"><u><i>Equisetum arvense</i></u></a>         | field horsetail             |
| <a href="#"><u><i>Equisetum palustre</i></u></a>        | marsh horsetail             |
| <a href="#"><u><i>Erysimum cheiranthoides</i></u></a>   | wormseed mustard            |
| <a href="#"><u><i>Euonymus atropurpureus</i></u></a>    | burningbush                 |
| <a href="#"><u><i>Euonymus europaeus</i></u></a>        | European spindletree        |
| <a href="#"><u><i>Eupatorium rugosum</i></u></a>        | white snakeroot             |
| <a href="#"><u><i>Euphorbia cyparissias</i></u></a>     | cypress spurge              |
| <a href="#"><u><i>Euphorbia esula</i></u></a>           | leafy spurge                |
| <a href="#"><u><i>Euphorbia helioscopia</i></u></a>     | sun spurge                  |
| <a href="#"><u><i>Euphorbia lactea</i></u></a>          | candelabra-cactus           |
| <a href="#"><u><i>Euphorbia lathyris</i></u></a>        | caper spurge                |
| <a href="#"><u><i>Euphorbia milii</i></u></a>           | crown-of-thorns             |
| <a href="#"><u><i>Euphorbia peplus</i></u></a>          | petty spurge                |
| <a href="#"><u><i>Euphorbia pulcherrima</i></u></a>     | poinsettia                  |
| <a href="#"><u><i>Euphorbia tirucalli</i></u></a>       | penciltree                  |
| <a href="#"><u><i>Fagopyrum esculentum</i></u></a>      | buckwheat                   |
| <a href="#"><u><i>Galanthus nivalis</i></u></a>         | snowdrop                    |
| <a href="#"><u><i>Ginkgo biloba</i></u></a>             | maidenhair tree             |
| <a href="#"><u><i>Glechoma hederacea</i></u></a>        | ground-ivy                  |
| <a href="#"><u><i>Gloriosa superba</i></u></a>          | glory lily                  |
| <a href="#"><u><i>Glyceria grandis</i></u></a>          | tall manna grass            |
| <a href="#"><u><i>Gutierrezia sarothrae</i></u></a>     | broom snakeweed             |
| <a href="#"><u><i>Gymnocladus dioicus</i></u></a>       | Kentucky coffeetree         |
| <a href="#"><u><i>Hedera helix</i></u></a>              | English ivy                 |
| <a href="#"><u><i>Helenium autumnale</i></u></a>        | sneezeweed                  |
| <a href="#"><u><i>Helenium flexuosum</i></u></a>        | naked-flowered sneezeweed   |
| <a href="#"><u><i>Helianthus annuus</i></u></a>         | sunflower                   |
| <a href="#"><u><i>Heliotropium curassavicum</i></u></a> | spatulate-leaved heliotrope |
| <a href="#"><u><i>Heracleum mantegazzianum</i></u></a>  | giant hogweed               |
| <a href="#"><u><i>Humulus lupulus</i></u></a>           | common hop                  |

|   |                       |
|---|-----------------------|
| <a href="#"><i>Hyacinthoides nonscripta</i></a> | English bluebell      |
| <a href="#"><i>Hydrangea macrophylla</i></a>    | hydrangea             |
| <a href="#"><i>Hymenoxys richardsonii</i></a>   | Colorado rubberweed   |
| <a href="#"><i>Hyoscyamus niger</i></a>         | black henbane         |
| <a href="#"><i>Hypericum perforatum</i></a>     | St. John's-wort       |
| <a href="#"><i>Ilex aquifolium</i></a>          | English holly         |
| <a href="#"><i>Ilex opaca</i></a>               | American holly        |
| <a href="#"><i>Ipomoea tricolor</i></a>         | morning glory         |
| <a href="#"><i>Iris pseudacorus</i></a>         | yellow iris           |
| <a href="#"><i>Iris versicolor</i></a>          | blue flag iris        |
| <a href="#"><i>Iva xanthifolia</i></a>          | false ragweed         |
| <a href="#"><i>Juglans nigra</i></a>            | black walnut          |
| <a href="#"><i>Kalanchoe daigremontiana</i></a> | Devil's-backbone      |
| <a href="#"><i>Kalmia angustifolia</i></a>      | sheep-laurel          |
| <a href="#"><i>Kalmia polifolia</i></a>         | bog-laurel            |
| <a href="#"><i>Kochia scoparia</i></a>          | kochia                |
| <a href="#"><i>Laburnum anagyroides</i></a>     | golden-chain          |
| <a href="#"><i>Lactuca scariola</i></a>         | prickly lettuce       |
| <a href="#"><i>Lantana camara</i></a>           | yellow sage           |
| <a href="#"><i>Laportea canadensis</i></a>      | Canada nettle         |
| <a href="#"><i>Lathyrus odoratus</i></a>        | sweet pea             |
| <a href="#"><i>Lathyrus sativus</i></a>         | grass pea             |
| <a href="#"><i>Leonurus cardiaca</i></a>        | motherwort            |
| <a href="#"><i>Ligustrum vulgare</i></a>        | common privet         |
| <a href="#"><i>Linaria vulgaris</i></a>         | yellow toadflax       |
| <a href="#"><i>Lobelia cardinalis</i></a>       | cardinalflower        |
| <a href="#"><i>Lobelia inflata</i></a>          | Indian-tobacco        |
| <a href="#"><i>Lobelia siphilitica</i></a>      | blue cardinalflower   |
| <a href="#"><i>Lonicera tatarica</i></a>        | Tartarian honeysuckle |
| <a href="#"><i>Lonicera xylosteum</i></a>       | fly honeysuckle       |
| <a href="#"><i>Lupinus argenteus</i></a>        | silvery lupine        |
| <a href="#"><i>Lupinus burkei</i></a>           | Burke's lupine        |
| <a href="#"><i>Lupinus polyphyllus</i></a>      | large-leaved lupine   |
| <a href="#"><i>Lupinus pusillus</i></a>         | small lupine          |
| <a href="#"><i>Lupinus sericeus</i></a>         | silky lupine          |
| <a href="#"><i>Maclura pomifera</i></a>         | Osage-orange          |
| <a href="#"><i>Mangifera indica</i></a>         | mango                 |
| <a href="#"><i>Medicago sativa</i></a>          | alfalfa               |
| <a href="#"><i>Melilotus alba</i></a>           | white sweet-clover    |
| <a href="#"><i>Melilotus officinalis</i></a>    | yellow sweet-clover   |
| <a href="#"><i>Menispermum canadense</i></a>    | moonseed              |
| <a href="#"><i>Menziesia ferruginea</i></a>     | western minniebush    |
| <a href="#"><i>Monstera deliciosa</i></a>       | Swiss-cheese plant    |
| <a href="#"><i>Narcissus poeticus</i></a>       | narcissus             |

|  |                                       |
|--|---------------------------------------|
| <a href="#"><i>Narcissus pseudonarcissus</i></a>   | daffodil                              |
| <a href="#"><i>Nerium oleander</i></a>             | oleander                              |
| <a href="#"><i>Nicotiana tabacum</i></a>           | tobacco                               |
| <a href="#"><i>Onoclea sensibilis</i></a>          | sensitive fern                        |
| <a href="#"><i>Ornithogalum umbellatum</i></a>     | star-of-Bethlehem                     |
| <a href="#"><i>Oxytropis lambertii</i></a>         | purple locoweed                       |
| <a href="#"><i>Oxytropis sericea</i></a>           | locoweed ( <i>Oxytropis sericea</i> ) |
| <a href="#"><i>Papaver nudicaule</i></a>           | Iceland poppy                         |
| <a href="#"><i>Papaver orientale</i></a>           | Oriental poppy                        |
| <a href="#"><i>Papaver rhoeas</i></a>              | corn poppy                            |
| <a href="#"><i>Papaver somniferum</i></a>          | opium poppy                           |
| <a href="#"><i>Parthenocissus quinquefolia</i></a> | Virginia creeper                      |
| <a href="#"><i>Pastinaca sativa</i></a>            | wild parsnip                          |
| <a href="#"><i>Persea americana</i></a>            | avocado                               |
| <a href="#"><i>Phacelia campanularia</i></a>       | California bluebell                   |
| <a href="#"><i>Phalaris arundinacea</i></a>        | reed canarygrass                      |
| <a href="#"><i>Philodendron cordatum</i></a>       | philodendron                          |
| <a href="#"><i>Philodendron scandens</i></a>       | heart-leaved philodendron             |
| <a href="#"><i>Phoradendron flavescens</i></a>     | American mistletoe                    |
| <a href="#"><i>Physalis alkekengi</i></a>          | Chinese-lantern                       |
| <a href="#"><i>Physalis peruviana</i></a>          | ground-cherry                         |
| <a href="#"><i>Phytolacca americana</i></a>        | pokeweed                              |
| <a href="#"><i>Pinus ponderosa</i></a>             | ponderosa pine                        |
| <a href="#"><i>Podophyllum peltatum</i></a>        | May-apple                             |
| <a href="#"><i>Primula obconica</i></a>            | primula                               |
| <a href="#"><i>Prunus pensylvanica</i></a>         | pin cherry                            |
| <a href="#"><i>Prunus serotina</i></a>             | black cherry                          |
| <a href="#"><i>Prunus virginiana</i></a>           | red chokecherry                       |
| <a href="#"><i>Pteridium aquilinum</i></a>         | bracken                               |
| <a href="#"><i>Quercus alba</i></a>                | white oak                             |
| <a href="#"><i>Quercus rubra</i></a>               | red oak                               |
| <a href="#"><i>Quercus velutina</i></a>            | black oak                             |
| <a href="#"><i>Ranunculus bulbosus</i></a>         | bulbous buttercup                     |
| <a href="#"><i>Ranunculus sceleratus</i></a>       | celery-leaved buttercup               |
| <a href="#"><i>Raphanus raphanistrum</i></a>       | wild radish                           |
| <a href="#"><i>Raphanus sativus</i></a>            | radish                                |
| <a href="#"><i>Rhamnus cathartica</i></a>          | European buckthorn                    |
| <a href="#"><i>Rhamnus frangula</i></a>            | alder buckthorn                       |
| <a href="#"><i>Rheum rhaponticum</i></a>           | rhubarb                               |
| <a href="#"><i>Rhododendron albiflorum</i></a>     | white rose-bay                        |
| <a href="#"><i>Rhododendron macrophyllum</i></a>   | California rose-bay                   |
| <a href="#"><i>Rhus diversiloba</i></a>            | western poison-oak                    |
| <a href="#"><i>Rhus radicans</i></a>               | poison ivy                            |
| <a href="#"><i>Rhus vernix</i></a>                 | poison sumac                          |

|   |                         |
|---|-------------------------|
| <a href="#"><u><i>Ricinus communis</i></u></a>        | castor-bean             |
| <a href="#"><u><i>Robinia pseudoacacia</i></u></a>    | black locust            |
| <a href="#"><u><i>Rudbeckia laciniata</i></u></a>     | cut-leaved coneflower   |
| <a href="#"><u><i>Rudbeckia serotina</i></u></a>      | black-eyed Susan        |
| <a href="#"><u><i>Rumex acetosa</i></u></a>           | garden-sorrel           |
| <a href="#"><u><i>Rumex acetosella</i></u></a>        | sheep sorrel            |
| <a href="#"><u><i>Rumex venosus</i></u></a>           | veined dock             |
| <a href="#"><u><i>Sambucus canadensis</i></u></a>     | American elder          |
| <a href="#"><u><i>Sambucus nigra</i></u></a>          | European elder          |
| <a href="#"><u><i>Sarcobatus vermiculatus</i></u></a> | greasewood              |
| <a href="#"><u><i>Scilla siberica</i></u></a>         | Siberian scilla         |
| <a href="#"><u><i>Senecio integerrimus</i></u></a>    | entire-leaved groundsel |
| <a href="#"><u><i>Senecio jacobaea</i></u></a>        | tansy ragwort           |
| <a href="#"><u><i>Senecio vulgaris</i></u></a>        | common groundsel        |
| <a href="#"><u><i>Sinapis arvensis</i></u></a>        | wild mustard            |
| <a href="#"><u><i>Solanum dulcamara</i></u></a>       | climbing nightshade     |
| <a href="#"><u><i>Solanum nigrum</i></u></a>          | black nightshade        |
| <a href="#"><u><i>Solanum pseudocapsicum</i></u></a>  | Jerusalem-cherry        |
| <a href="#"><u><i>Solanum tuberosum</i></u></a>       | potato                  |
| <a href="#"><u><i>Solidago mollis</i></u></a>         | velvety goldenrod       |
| <a href="#"><u><i>Sorghum bicolor</i></u></a>         | Sorghum                 |
| <a href="#"><u><i>Sorghum halepense</i></u></a>       | Johnson grass           |
| <a href="#"><u><i>Sorghum sudanense</i></u></a>       | Sudan grass             |
| <a href="#"><u><i>Suckleya suckleyana</i></u></a>     | poison suckleya         |
| <a href="#"><u><i>Symphoricarpos albus</i></u></a>    | thin-leaved snowberry   |
| <a href="#"><u><i>Symphytum asperum</i></u></a>       | prickly comfrey         |
| <a href="#"><u><i>Symphytum officinale</i></u></a>    | common comfrey          |
| <a href="#"><u><i>Symplocarpus foetidus</i></u></a>   | skunk cabbage           |
| <a href="#"><u><i>Tanacetum vulgare</i></u></a>       | tansy                   |
| <a href="#"><u><i>Taxus baccata</i></u></a>           | English yew             |
| <a href="#"><u><i>Taxus canadensis</i></u></a>        | Canada yew              |
| <a href="#"><u><i>Taxus cuspidata</i></u></a>         | Japanese yew            |
| <a href="#"><u><i>Thermopsis rhombifolia</i></u></a>  | golden-bean             |
| <a href="#"><u><i>Thlaspi arvense</i></u></a>         | stinkweed               |
| <a href="#"><u><i>Trifolium hybridum</i></u></a>      | alsike clover           |
| <a href="#"><u><i>Trifolium pratense</i></u></a>      | red clover              |
| <a href="#"><u><i>Trifolium repens</i></u></a>        | white clover            |
| <a href="#"><u><i>Triglochin maritima</i></u></a>     | seaside arrow-grass     |
| <a href="#"><u><i>Triglochin palustre</i></u></a>     | marsh arrow-grass       |
| <a href="#"><u><i>Tulipa gesneriana</i></u></a>       | tulip                   |
| <a href="#"><u><i>Urtica dioica</i></u></a>           | stinging nettle         |
| <a href="#"><u><i>Veratrum viride</i></u></a>         | false hellebore         |
| <a href="#"><u><i>Viburnum opulus</i></u></a>         | Guelder-rose            |
| <a href="#"><u><i>Vicia faba</i></u></a>              | broad bean              |

|   |                   |
|---|-------------------|
| <a href="#"><u><i>Vicia sativa</i></u></a>        | common vetch      |
| <a href="#"><u><i>Vicia villosa</i></u></a>       | hairy vetch       |
| <a href="#"><u><i>Wisteria floribunda</i></u></a> | Japanese wisteria |
| <a href="#"><u><i>Xanthium strumarium</i></u></a> | cocklebur         |
| <a href="#"><u><i>Zigadenus elegans</i></u></a>   | white camas       |
| <a href="#"><u><i>Zigadenus venenosus</i></u></a> | death camas       |

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## [Notes on poisoning: alder buckthorn](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Alder buckthorn (*Rhamnus frangula*) is a naturalized shrub or small tree that is found in parts of eastern Canada and the Prairie Provinces. This plant is found along fencerows and roadsides and in lightly shaded woodlands. Several purgative chemicals, including emodin, occur in the bark and in the purple-black fruits. This plant causes usually mild symptoms if ingested by children. There is one record of fatal poisoning of a cow (Cooper and Johnson 1984, Fuller and McClintock 1985).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Nomenclature:

Scientific Name: *Rhamnus frangula* L.

Vernacular name(s): alder buckthorn

Scientific family name: *Rhamnaceae*

Vernacular family name: buckthorn

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rhamnus frangula](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

alder buckthorn:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bark  
mature fruit

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

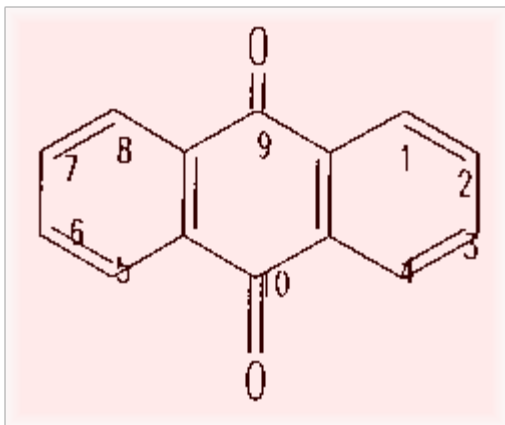
### **Notes on Toxic plant chemicals:**

Alder buckthorn contains glycosides, which upon hydrolysis yield anthraquinones such as emodin (a trihydroxymethylantraquinone). These chemicals are purgative; emodin has been used in laxatives (Cooper and Johnson 1984).

### **Toxic plant chemicals:**

anthraquinones





emodine

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

#### General symptoms of poisoning:

[death](#)  
[diarrhea](#)  
[fever](#)  
[vomiting](#)

#### Notes on poisoning:

In one case of fatal poisoning, a cow ate large quantities of leaves, twigs, and berries of alder buckthorn. The animal quickly became ill and developed symptoms of diarrhea, vomiting, slow pulse, cramps, and slight fever before death. Postmortem examination showed leaves of the plant in the stomach, with gastrointestinal inflammation (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Humans

## **General symptoms of poisoning:**

[abdominal pains](#)

[collapse](#)

[convulsions](#)

[diarrhea](#)

[gastroenteritis](#)

[hemorrhage](#)

[vomiting](#)

## **Notes on poisoning:**

Children who ingest the plant material usually experience mild symptoms of poisoning such as transient abdominal pains, vomiting, and diarrhea. If 20 or more berries are ingested, symptoms may include gastrointestinal symptoms, fluid depletion, kidney damage, muscular convulsions, and hemorrhage. In severe cases, difficult breathing and collapse may occur. Severe poisoning is rare because of induced vomiting. Treatment should replace lost fluids and induce vomiting if it has not occurred (Cooper and Johnson 1984, Fuller and McClintock 1985).

## **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: alfalfa](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Alfalfa (*Medicago sativa*) is an important forage and silage crop in Canada. However, under some circumstances, alfalfa can cause a variety of different toxic problems. Ingesting rapidly growing alfalfa at the vegetative to mid-bud stage can cause bloat in cattle and sheep (Hall and Majak 1989). Alfalfa has also caused photosensitization in cattle with white skin (MacDonald 1954). Alfalfa contains phytoestrogens which cause infertility in animals, including cattle and sheep. These compounds are also contained in some alfalfa pills that are found in health food stores, and these may cause problems in some cases (Cheeke and Schull 1985). Alfalfa also contains saponins that can interfere with the growth of poultry and thus reduce egg-laying (Fuller and McClintock 1986, Oakenfull and Sidhu 1989). Low saponin cultivars have been developed.

### References:

- Adams, N. R. 1989. Phytoestrogens. Pages 23-51 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. IV. Phenolics. CRC Press, Inc., Boca Raton, Fla., USA. 232 pp.
- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.
- Hall, J. W., Majak, W. 1989. Plant and animal factors in legume bloat. Pages 93-106 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.
- MacDonald, H. E. 1954. Photosensitization. Can. J. Comp. Med., 18: 228.
- Oakenfull, D., Sidhu, G. S. 1989. Saponins. Pages 97-143 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### Nomenclature:

Scientific Name: *Medicago sativa* L.

Vernacular name(s): alfalfa

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Medicago sativa](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

alfalfa:

**Images:** [images.google.com](http://images.google.com)

**Toxic parts:**

leaves

stems

**References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

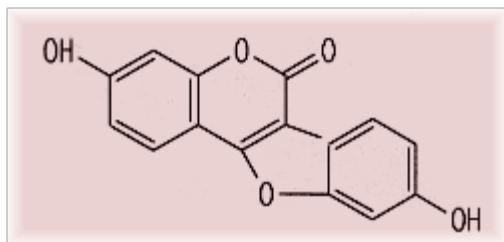
**Notes on Toxic plant chemicals:**

Alfalfa contains two phytoestrogenic compounds, coumestrol and coumestan. These compounds can cause fertility problems in sheep and cattle. Alfalfa also contains bloat-causing proteins. Saponins, such as medicagenic acid, can cause growth reduction in poultry (Adams 1989, Hall and Majak 1989, Oakenfull and Sidhu 1989).

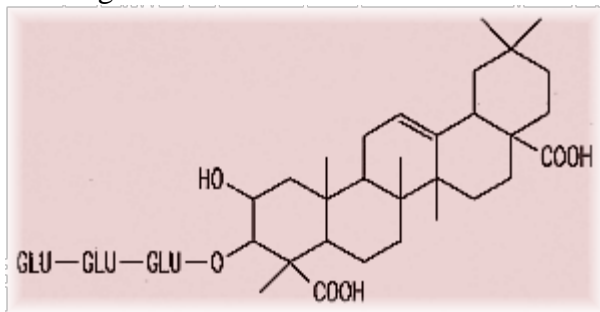
**Toxic plant chemicals:**

coumestan

coumestrol



medicagenic acid



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Adams, N. R. 1989. Phytoestrogens. Pages 23-51 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. IV. Phenolics. CRC Press, Inc., Boca Raton, Fla., USA. 232 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California.

Univ. California Press, Berkeley, Calif., USA. 432 pp.

Oakenfull, D., Sidhu, G. S. 1989. Saponins. Pages 97-143 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[bloat](#)  
[infertility](#)

#### **Notes on poisoning:**

Cattle are especially susceptible to bloat after ingesting rapidly growing alfalfa in the vegetative to mid-bud stage of growth. The formation of stable foam bubbles is recognized as being affected by the concentration of cytoplasmic proteins, which is in turn affected by rumen pH, and the colloidal suspension of chloroplast particles from the plant; the stability is controlled by ion concentration (Hall and Majak 1989). Alfalfa also contains phytoestrogens, which have caused infertility problems in dairy cattle because of cystic ovaries and irregular estrous cycles. Precocious development of mammary glands also occurs, as well as genital formation in heifers. The coumestan chemicals suppress estrous and inhibit ovulation (Cheeke and Schull 1985, Adams 1989).

#### **References:**

Adams, N. R. 1989. Phytoestrogens. Pages 23-51 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. IV. Phenolics. CRC Press, Inc., Boca Raton, Fla., USA. 232 pp.

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Hall, J. W., Majak, W. 1989. Plant and animal factors in legume bloat. Pages 93-106 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

### **Chickens**

#### **General symptoms of poisoning:**

[weight gain, reduced](#)

### **References:**

Oakenfull, D., Sidhu, G. S. 1989. Saponins. Pages 97-143 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### **Humans**

#### **General symptoms of poisoning:**

[infertility](#)

#### **Notes on poisoning:**

Alfalfa tablets are available in health food stores as a dietary supplement for humans. The benefits of the tablets are not clear. Measurements of the phytoestrogen content of some commercial brands have ranged from 20 to 190 ppm. This level of intake, in conjunction with other sources of estrogen (such as birth control pills and estrogen replacement therapy), may be potentially harmful (Cheeke and Schull 1985).

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Sheep**

#### **General symptoms of poisoning:**

[bloat](#)

[erythema](#)

[infertility](#)

[skin, peeling of](#)

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

MacDonald, H. E. 1954. Photosensitization. Can. J. Comp. Med., 18: 228.

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[Important Notices](#)



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## [Notes on poisoning: aloe - \*A. barbadensis\*](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Aloe (*Aloe barbadensis*) is the common "Aloe vera" found in extracts that are used in cosmetics and medicinal products. The latex from under the skin can cause a cathartic action because it irritates the large intestine; anthraquinones color alkaline urine red. An excessive dose may cause nephritis (Lampe and McCann 1985). Contact dermatitis can also result from contact with this plant.

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Schenkel, B., Vorherr, H. 1974. Non-prescription drugs during pregnancy: potential teratogenic and toxic effects upon embryo and fetus. J. Reprod. Med., 12: 33.

Spoerke, D. G., Ekins, B. R. 1980. *Aloe vera* - fact or quackery. Vet. Hum. Toxicol., 22: 418-424.

### Nomenclature:

Scientific Name: *Aloe barbadensis* Mill.

Vernacular name(s): aloe - *A. barbadensis*

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Aloe barbadensis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ.,



Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

aloe - *A. barbadensis*:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

latex

### **References:**

Schenkel, B., Vorherr, H. 1974. Non-prescription drugs during pregnancy: potential teratogenic and toxic effects upon embryo and fetus. J. Reprod. Med., 12: 33.

Spoerke, D. G., Ekins, B. R. 1980. *Aloe vera* - fact or quackery. Vet. Hum. Toxicol., 22: 418-424.

### **Toxic plant chemicals:**

aloe-emodin

### **References:**

Spoerke, D. G., Ekins, B. R. 1980. *Aloe vera* - fact or quackery. Vet. Hum. Toxicol., 22: 418-424.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[catharsis](#)

[nephritis](#)

### **References:**

Schenkel, B., Vorherr, H. 1974. Non-prescription drugs during pregnancy: potential teratogenic and toxic effects upon embryo and fetus. *J. Reprod. Med.*, 12: 33.

Spoerke, D. G., Ekins, B. R. 1980. *Aloe vera* - fact or quackery. *Vet. Hum. Toxicol.*, 22: 418-424.

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## [Notes on poisoning: alsike clover](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Alsike clover (*Trifolium hybridum*) is found most frequently in the farming areas of northern Canada. This plant is adapted to cool climates and heavy, poorly drained clay soils. Cases of photosensitization have occurred, sometimes accompanied by liver damage and enlargement. This problem has occurred mostly in horses and occasionally in cattle. There is also a potential for nitrate poisoning (Cooper and Johnson 1984, Cheeke and Schull 1985).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fincher, M. G., Fuller, H. K. 1942. Photosensitization - trifoliosis - light sensitization. Cornell Vet., 32: 95-99.

Nation, P. N. 1989. Alsike clover poisoning: a review. Can. Vet. J., 30: 410-415.

Traub, J. L., Potter, K. A., Bayly, W. M., Reed, S. M. 1982. Alsike clover poisoning. Mod. Vet. Pract., 63: 307-309.

### Nomenclature:

Scientific Name: *Trifolium hybridum* L.

Vernacular name(s): alsike clover

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Trifolium hybridum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

alsike clover:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Ingesting alsike clover causes photosensitization in horses and cattle. The toxic compounds have not been indentified. Nitrates may also accumulate in the plant (Cooper and Johnson 1984).

**Toxic parts:**

all parts  
leaves

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

**Toxic plant chemicals:**

nitrate

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[breathing, labored](#)  
[cyanosis](#)  
[gait, staggering](#)

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Horses**

**General symptoms of poisoning:**

[blindness](#)  
[depression](#)  
[gait, staggering](#)  
[liver, cirrhosis of](#)  
[nephrosis, severe](#)

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Traub, J. L., Potter, K. A., Bayly, W. M., Reed, S. M. 1982. Alsike clover poisoning. Mod. Vet. Pract., 63: 307-309.

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## [Notes on poisoning: amaryllis \(A. belledonna\)](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Amaryllis (*Amaryllis belladonna*) is an ornamental plant commonly sold for its winter flowers. Ingesting the bulbs has poisoned humans. The toxic alkaloid, lycorine, is the principal toxin, although small quantities of related alkaloids are also present (Lampe and McCann 1985; Fuller and McClintock 1986).

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Amaryllis belladonna* L.

Vernacular name(s): amaryllis (A. belledonna)

Scientific family name: *Amaryllidaceae*

Vernacular family name: amaryllis

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Amaryllis belladonna](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

amaryllis (A. belledonna):

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bulbs

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Notes on Toxic plant chemicals:**

Lycorine, a heat-stable alkaloid, is found in *Amaryllis* spp. as well as *Clivia* spp., *Galanthus nivalis*, and *Narcissus* spp. This chemical occurs in small quantities in *Amaryllis* species, so that large quantities of bulb must be eaten to cause symptoms (Lampe and McCann 1985).

### **Toxic plant chemicals:**

lycorine

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous



and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[diarrhea](#)

[nausea](#)

[vomiting](#)

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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## [Notes on poisoning: amaryllis \(\*A. vittata\*\)](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

The symptoms of poisoning and the chemical involved in amaryllis (*A. vittata*) are the same as those for [A. belladonna](#). Please see the additional notes listed under that species.

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Amaryllis vittata* Ait.

Vernacular name(s): amaryllis (*A. vittata*)

Scientific family name: *Amaryllidaceae*

Vernacular family name: amaryllis

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

## **Geographic Information**

Plant or plant parts used in or around the home.

## **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## **Image or illustration**

amaryllis (*A. vittata*):

**Images:** [images.google.com](http://images.google.com)

## **Toxic parts:**

bulbs

## **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

## **Toxic plant chemicals:**

lycorine

## **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

## **General symptoms of poisoning:**

[nausea](#)  
[vomiting](#)

## **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: American elder](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

American elder (*Sambucus canadensis*) is a native shrub found in the moist soils of swamps and along rivers and lakes in eastern Canada. This plant contains cyanogenic glycosides and a cathartic chemical. The plant has poisoned cattle and perhaps sheep. Children were poisoned after using the hollow stems for whistles. Ingesting uncooked berries may cause nausea (Kingsbury 1964, Muenscher 1978). Red-berried elder (*Sambucus pubens*) is a native shrub found from Newfoundland to Manitoba. There are unsubstantiated reports that this species may also have toxic potential. Children should not be allowed to chew the stems or berries.

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Muenscher, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

### Nomenclature:

Scientific Name: *Sambucus canadensis* L.

Vernacular name(s): American elder

Scientific family name: *Caprifoliaceae*

Vernacular family name: honeysuckle

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Sambucus canadensis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

New Brunswick

Nova Scotia

Ontario

Prince Edward Island

Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

American elder:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Animals were poisoned after ingesting young shoots and leaves. Children were also poisoned when they used the hollow stems as whistles. Uncooked berries may cause nausea (Muenscher 1975).

### **Toxic parts:**

leaves

pollen

young shoots

### **References:**

Muenscher, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

### **Notes on Toxic plant chemicals:**

Cyanogenic glycosides are found in elders. Sambunigrin and other

chemicals may be involved. Cathartics may also be present (Kingsbury 1964, Tewe and Iyayi 1989).

**Toxic plant chemicals:**

sambunigrin

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Tewe, O. O., Iyayi, E. A. 1989. Cyanogenic glycosides. Pages 43-60 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[abdominal pains](#)

**References:**

Muenschler, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

**Humans**

**General symptoms of poisoning:**

[nausea](#)  
[vomiting](#)

**Notes on poisoning:**

Apparently, the use of the hollow stems as whistles or blowpipes has caused poisoning in children. The bark contains a cathartic. Ingesting uncooked berries can cause nausea and vomiting. Cooked are not harmful if eaten in small amounts (Kingsbury 1964).

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Muenschler, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

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Date modified: 2009-09-01

[Important Notices](#)





| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: American holly](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

American holly (*Ilex opaca*) is an ornamental shrub that provides glossy green leaves and red berries used in Christmas decorations. Ingested berries have been implicated in cases of poisoning of children. The symptoms included vomiting and diarrhea (Rodrigues et al. 1984, Lampe and McCann 1985).

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Rodrigues, T. D., Johnson, P. N., Jeffrey, L. P. 1984. Hollyberry ingestion. Case report. Vet. Hum. Toxicol., 26: 157-158.

### Nomenclature:

Scientific Name: *Ilex opaca* Ait.

Vernacular name(s): American holly

Scientific family name: *Aquifoliaceae*

Vernacular family name: holly

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Ilex opaca](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci.

(Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

American holly:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

mature fruit

### **References:**

Rodrigues, T. D., Johnson, P. N., Jeffrey, L. P. 1984. Hollyberry ingestion. Case report. Vet. Hum. Toxicol., 26: 157-158.

### **Notes on Toxic plant chemicals:**

Ilicin is a crude extract that is a bitter glycoside. This extract has been implicated as the poisonous substance (Rodrigues et al. 1984).

### **Toxic plant chemicals:**

ilicin

### **References:**

Rodrigues, T. D., Johnson, P. N., Jeffrey, L. P. 1984. Hollyberry ingestion. Case report. Vet. Hum. Toxicol., 26: 157-158.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[diarrhea](#)  
[drowsiness](#)  
[vomiting](#)

### **Notes on poisoning:**

Ingestion of a "handful" of berries caused repeated vomiting, green, watery diarrhea, and passage of green semisoft stools. The drowsiness might have been associated with the ipecac-induced vomiting. Ingestion of berries usually results in mild symptoms unless a lot of berries are eaten. Children are more likely to eat the berries (Rodrigues et al. 1984).

### **References:**

Rodrigues, T. D., Johnson, P. N., Jeffrey, L. P. 1984. Hollyberry ingestion. Case report. Vet. Hum. Toxicol., 26: 157-158.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: American mistletoe](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

American mistletoe (*Phoradendron flavescens*) is the familiar mistletoe of Christmas. Ingesting a large number of the berries or tea made from the berries has led to poisoning and death in humans. Mistletoe, used as decorations at Christmas, should be kept out of the reach of children and family pets (Kingsbury 1964, Fuller and McClintock 1986).

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Phoradendron flavescens* (Pursh) Nutt.

Vernacular name(s): American mistletoe

Scientific family name: *Loranthaceae*

Vernacular family name: mistletoe

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Phoradendron flavescens](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

American mistletoe:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
leaves  
mature fruit

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Notes on Toxic plant chemicals:**

American mistletoe contains two amines, beta-phenylethylamine and tyramine, as well as a lectin, phoratoxin. These chemicals are probably responsible for toxic reactions after ingestion (Fuller and McClintock 1986).

### **Toxic plant chemicals:**

beta-phenylethylamine  
phoratoxin  
tryamine

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[cardiac arrest](#)

[death](#)

[gastroenteritis](#)

### **Notes on poisoning:**

Ingesting a few berries causes abdominal pain and diarrhea. Tea made from the berries caused death about 10 h after symptoms of acute gastroenteritis, followed by cardiovascular collapse. Plant material has slowed the heartbeat in a way similar to digitalis (Kingsbury 1964, Fuller and McClintock 1986).

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: angel's trumpet](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Angel's trumpet (*Datura innoxia*) contains toxic alkaloids that have caused poisoning and death in humans and other animals. Most of the literature concerns poisoning by jimsonweed (*Datura stramonium*), but angel's trumpet should be considered poisonous as well. This plant is occasionally grown as an outdoor ornamental herb because of its spectacular tubular flowers. See additional information under general notes of [Datura stramonium](#).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Datura innoxia* Mill.

Vernacular name(s): angel's trumpet

Scientific family name: *Solanaceae*

Vernacular family name: nightshade

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Datura innoxia](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

angel's trumpet:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
leaves  
seeds

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Notes on Toxic plant chemicals:**

This plant contains the tropane alkaloids atropine, hyoscine, and hyoscyamine. See additional information under general notes of [Datura stramonium](#).

### **Toxic plant chemicals:**



hyoscyamine

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[death](#)

[muscle twitching](#)

[nervousness](#)

#### **Notes on poisoning:**

All types of animals can be poisoned by angel's trumpet because it contains alkaloids. However, no definite cases of poisoning have been reported. The most likely animals to be poisoned are family pets that may have access to plants outside the house.

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Humans**

#### **General symptoms of poisoning:**

[agitation](#)

[choreiform movement](#)

[coma](#)

[drowsiness](#)

[hallucination](#)

[temperature, elevated](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01 [Important Notices](#)



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|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: Astragalus \(A. adsurgens\)](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



### **General poisoning notes:**

*Astragalus adsurgens* is a native herb found across western Canada. This plant has the potential to accumulate toxic levels of selenium, which would cause symptoms in cattle and probably other livestock. Cases of livestock poisoned by this plant could not be found in the literature.

### **References:**

Davis, A. M. 1986. Selenium uptake in *Astragalus* and *Lupinus* species. *Agron. J.*, 78: 727-729.

### **Nomenclature:**

Scientific Name: *Astragalus adsurgens* Pall.

Vernacular name(s): *Astragalus* (*A. adsurgens*)

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Astragalus adsurgens](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Northwest Territories  
Ontario  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Astragalus (A. adsurgens):

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Davis, A. M. 1986. Selenium uptake in *Astragalus* and *Lupinus* species. Agron. J., 78: 727-729.

### **Notes on Toxic plant chemicals:**

*Astragalus adsurgens* has been found to accumulate selenium well above the minimum amount of 5 mg/kg required for the existence of selenium poisoning in sheep and cattle. Some plants collected in Canada contained 44 mg/kg of selenium (Davis 1986).

### **Toxic plant chemicals:**

selenium

### **References:**

Davis, A. M. 1986. Selenium uptake in *Astragalus* and *Lupinus* species. Agron. J., 78: 727-729.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Cattle**

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[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Astragalus \(A. lentiginosus\)](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

*Astragalus lentiginosus* is a native plant found in south-central British Columbia. Ingesting the plant causes a variety of problems. Plants contain the alkaloid swainsonine, which can cause locoism. The common symptoms are impairment of the nervous system, depression, and excitement when disturbed. Teratogenic effects have also been noted in lambs and foals. At high altitudes (above 2120 m), cattle suffer from congestive heart failure (swainsonine influences the vascular system). This plant is a major poisonous range plant in the western United States. It is not abundant anywhere in Canada (Cheeke and Schull 1985, Panter et al. 1988).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

James, L. F., Van Kampen, K. R. 1971. Effects of locoweed intoxication on the genital tract of the ram. *Am. J. Vet. Res.*, 32: 1253-1256.

LeGrande, C. E., James, L. F., McMullen, R. W., Panter, K. E. 1985. Reduced progesterone and altered cotyledonary prostaglandin values induced by locoweed (*Astragalus lentiginosus*) in sheep. *Am. J. Vet. Res.*, 46: 1903-1907.

Panter, K. E., Bunch, T. D., James, L. F., Sisson, D. V. 1987. Ultrasonographic imaging to monitor fetal and placental developments in ewes fed locoweed (*Astragalus lentiginosus*). *Am. J. Vet. Res.*, 48: 686-690.

Panter, K. E., James, L. F., Hartley, W. J. 1989. Transient testicular degeneration in rams fed locoweed (*Astragalus lentiginosus*). *Vet. Hum. Toxicol.*, 31: 42-46.

Panter, K. E., James, L. F., Nielson, D., Molyneux, R. J., Ralphs, M. H. 1988. The relationship of *Oxytropis sericea* (green and dry) and *Astragalus lentiginosus* with high mountain disease in cattle. *Vet. Hum. Toxicol.*, 30: 318-323.

Ralphs, M. H., Panter, K. E., James, L. F. 1990. Feed preferences and habituation of sheep poisoned by locoweed. *J. Anim. Sci.*, 68:

1354-1362.

Tulsiani, D. R., Broquist, H. P., James, L. F., Touster, O. 1984. The similar effects of swainsonine and locoweed on tissue glycosidases and oligosaccharides of the pig indicate that the alkaloid is the principal toxin for induction of locoism. Arch. Biochem. Biophys., 232: 76-85.

Van Kampen, K. R., James, L. F. 1972. Sequential development of the lesions in locoweed poisoning. Clin. Toxicol., 5: 575-580.

**Nomenclature:**

Scientific Name: *Astragalus lentiginosus* Dougl.

Vernacular name(s): Astragalus (A. lentiginosus)

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Astragalus lentiginosus](#)

**References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

**Geographic Information**

British Columbia

**References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Astragalus (A. lentiginosus):

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

flowers

leaves

seeds

stems

### **References:**

James, L. F., Van Kampen, K. R. 1971. Effects of locoweed intoxication on the genital tract of the ram. Am. J. Vet. Res., 32: 1253-1256.

LeGrande, C. E., James, L. F., McMullen, R. W., Panter, K. E. 1985. Reduced progesterone and altered cotyledonary prostaglandin values induced by locoweed (*Astragalus lentiginosus*) in sheep. Am. J. Vet. Res., 46: 1903-1907.

Panter, K. E., James, L. F., Hartley, W. J. 1989. Transient testicular degeneration in rams fed locoweed (*Astragalus lentiginosus*). Vet. Hum. Toxicol., 31: 42-46.

Panter, K. E., James, L. F., Nielson, D., Molyneux, R. J., Ralphs, M. H. 1988. The relationship of *Oxytropis sericea* (green and dry) and *Astragalus lentiginosus* with high mountain disease in cattle. Vet. Hum. Toxicol., 30: 318-323.

Tulsiani, D. R., Broquist, H. P., James, L. F., Touster, O. 1984. The similar effects of swainsonine and locoweed on tissue glycosidases and oligosaccharides of the pig indicate that the alkaloid is the principal toxin for induction of locoism. Arch. Biochem. Biophys., 232: 76-85.

Van Kampen, K. R., James, L. F. 1972. Sequential development of the lesions in locoweed poisoning. Clin. Toxicol., 5: 575-580.

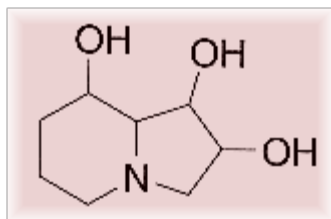
### **Notes on Toxic plant chemicals:**

Swainsonine, the chemical involved in locoism, is found in several plants occurring in Canada, including *Astragalus bisulcatus*, *A. lentiginosus*, *Oxytropis lambertii*, and *O. sericea*. This indolizidine alkaloid causes locoism in cattle, horses, and sheep; it also causes teratogenic deformities in lambs, calves, and foals. In addition, at high altitudes (above 2120 m) it contributes to congenital heart failure in calves and cows (Cheeke and Schull 1985).



### Toxic plant chemicals:

slaframine  
swainsonine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Molyneux, R. J., James, L. F. 1982. Loco intoxication: indolizidine alkaloids of spotted locoweed (*Astragalus lentiginosus*). Science (Wash. D. C.), 216: 190-191.

Tulsiani, D. R., Broquist, H. P., James, L. F., Touster, O. 1984. The similar effects of swainsonine and locoweed on tissue glycosidases and oligosaccharides of the pig indicate that the alkaloid is the principal toxin for induction of locoism. Arch. Biochem. Biophys., 232: 76-85.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Cattle

### General symptoms of poisoning:

[abdominal edema](#)  
[appetite, loss of](#)  
[duodenum, edema of](#)  
[gall bladder, enlarged](#)  
[jaw \(lower\), edema of](#)  
[thorax \(ventral\), edema](#)  
[throat, edema of](#)  
[ventricular\(right\), edema](#)

### References:

Panter, K. E., James, L. F., Nielson, D., Molyneux, R. J., Ralphs, M. H. 1988. The relationship of *Oxytropis sericea* (green and dry) and *Astragalus lentiginosus* with high mountain disease in cattle. Vet. Hum. Toxicol., 30: 318-323.

## Horses

## Sheep

### General symptoms of poisoning:

[abortion](#)  
[blisters, weeping](#)  
[brain, vacuolation of](#)  
[cytoplasm vacuolation](#)  
[death](#)  
[depression](#)  
[eyes, dull](#)  
[fetus, dead](#)  
[gait, unsteady](#)  
[heart rate, elevated](#)  
[incoordination](#)  
[kidney, congestion of](#)  
[kidney, vacuolation of](#)  
[lethargy](#)  
[liver, congestion of](#)  
[muscle, weakness of](#)  
[sperm, detached tails](#)  
[sperm mobility, poor](#)  
[testicle degeneration](#)  
[ventricle\(right\), edema](#)  
[ventricle\(right\), round](#)  
[weakness](#)

### Notes on poisoning:

*Astragalus lentiginosus* caused fetal abortion in sheep and clinical signs of locoism in pregnant ewes. It also caused fluid accumulation in the placenta, altered cotyledonary development, and decreased fetal heart rates causing cardiac irregularity. At necropsy the fetuses had hypertrophy of the heart, right ventricular dilation, rounded apex of the heart, and generalized edema (Panter et al. 1987).

### References:

James, L. F., Van Kampen, K. R. 1971. Effects of locoweed intoxication on the genital tract of the ram. *Am. J. Vet. Res.*, 32: 1253-1256.

LeGrande, C. E., James, L. F., McMullen, R. W., Panter, K. E. 1985. Reduced progesterone and altered cotyledonary prostaglandin values induced by locoweed (*Astragalus lentiginosus*) in sheep. *Am. J. Vet. Res.*, 46: 1903-1907.

Panter, K. E., Bunch, T. D., James, L. F., Sisson, D. V. 1987. Ultrasonographic imaging to monitor fetal and placental developments in ewes fed locoweed (*Astragalus lentiginosus*). *Am. J. Vet. Res.*, 48: 686-690.

Panter, K. E., James, L. F., Hartley, W. J. 1989. Transient testicular degeneration in rams fed locoweed (*Astragalus lentiginosus*). Vet. Hum. Toxicol., 31: 42-46.

Ralphs, M. H., Panter, K. E., James, L. F. 1990. Feed preferences and habituation of sheep poisoned by locoweed. J. Anim. Sci., 68: 1354-1362.

Van Kampen, K. R., James, L. F. 1972. Sequential development of the lesions in locoweed poisoning. Clin. Toxicol., 5: 575-580.

## Swine

### General symptoms of poisoning:

[brain, vacuolation of](#)  
[coat, rough and dry](#)  
[cytoplasm vacuolation](#)  
[depression](#)  
[eyes, dull](#)  
[incoordination](#)  
[kidney, vacuolation of](#)

### References:

Tulsiani, D. R., Broquist, H. P., James, L. F., Touster, O. 1984. The similar effects of swainsonine and locoweed on tissue glycosidases and oligosaccharides of the pig indicate that the alkaloid is the principal toxin for induction of locoism. Arch. Biochem. Biophys., 232: 76-85.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Australian umbrella tree](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Australian umbrella tree (*Brassaia actinophylla*) is an ornamental shrub grown indoors in Canada. This plant caused toxic symptoms in a dog after it ingested the leaves. Experimental work on rats caused death after they ingested 3.2 g of leaf tissue over 7 days. Symptoms in the rats included extramedullary hematopoiesis in the spleen, with black tarry gastrointestinal content caused by blood (Quam et al. 1985).

### References:

Mitchell, J. C. 1981. Allergic contact dermatitis from *Hedera helix* and *Brassaia actinophylla* (Araliaceae). *Contact Dermatitis*, 7: 158-159.

Quam, V. C., Schermeister, L. J., Tanner, N. S. 1985. Investigation for toxicity of a household plant - Australian umbrella tree (*Brassaia actinophylla* Endl.). *N. D. Farm Res.*, 43: 15-17.

Spoerke, D. G., Smolinske, S. C. 1990. *Toxicity of houseplants*. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Brassaia actinophylla* Endl.

Vernacular name(s): Australian umbrella tree

Scientific family name: *Araliaceae*

Vernacular family name: aralia

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Brassaia actinophylla](#)

### References:

Agriculture Quebec. 1975. *Noms des maladies des plantes du Canada/ Names of plant diseases in Canada*. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. *Common and botanical names of weeds in Canada/Noms populaire et scientifiques*

des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Australian umbrella tree:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Quam, V. C., Schermeister, L. J., Tanner, N. S. 1985. Investigation for toxicity of a household plant - Australian umbrella tree (*Brassaia actinophylla* Endl.). N. D. Farm Res., 43: 15-17.

### **Notes on Toxic plant chemicals:**

Chemical analysis (Quam et al. 1985) revealed that leaves contain oxalates and saponins as well as some cardiac glycosides and alkaloids.

### **Toxic plant chemicals:**

oxalate

### **References:**

Quam, V. C., Schermeister, L. J., Tanner, N. S. 1985. Investigation for toxicity of a household plant - Australian umbrella tree (*Brassaia actinophylla* Endl.). N. D. Farm Res., 43: 15-17.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### **Dogs**

##### **General symptoms of poisoning:**

[anorexia](#)

[ataxia](#)

[vomiting](#)

##### **Notes on poisoning:**

A poodle that ingested Australian umbrella tree leaves suffered from vomiting, leucopenia, anorexia, and ataxia. The leaves were found to contain 0.9%-1.5% oxalate crystals by weight (Spoerke and Smolinske 1990).

##### **References:**

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

#### **Humans**

##### **General symptoms of poisoning:**

[erythema](#)

##### **References:**

Mitchell, J. C. 1981. Allergic contact dermatitis from *Hedera helix* and *Brassaia actinophylla* (Araliaceae). Contact Dermatitis, 7: 158-159.

#### **Rodents**

##### **General symptoms of poisoning:**

[death](#)

[hemorrhage](#)

##### **References:**

Quam, V. C., Schermeister, L. J., Tanner, N. S. 1985. Investigation for toxicity of a household plant - Australian umbrella tree (*Brassaia actinophylla* Endl.). N. D. Farm Res., 43: 15-17.

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## [Notes on poisoning: autumn crocus](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



### **General poisoning notes:**

Autumn crocus (*Colchium autumnale*) is an outdoor ornamental grown for its autumn flowers. The plant is poisonous to all animals and to humans. Livestock have been poisoned in Europe and Asia, where the plants are native. Poisoning has been reported in cattle, goats horses, sheep, and swine, as well as in humans and dogs. The toxic chemical colchicine can be excreted through the milk of lactating animals, thereby poisoning young animals and humans. Cattle and, to a lesser extent, goats and sheep can develop complete resistance to colchicine (Cooper and Johnson 1984). This plant is found only in garden cultivation or maybe as a houseplant in Canada. Children and family pets are therefore most at risk from ingesting autumn crocus.

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Hill, S. R., Duke, P. K. 1986. 100 poisonous plants of Maryland. Univ. MD. Coop. Ext. Serv. Bull., 314. 55 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Nomenclature:**

Scientific Name: *Colchicum autumnale* L.

Vernacular name(s): autumn crocus

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Colchicum autumnale](#)



## References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

## Geographic Information

Plant or plant parts used in or around the home.

## References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## Image or illustration

autumn crocus:

Images: [images.google.com](http://images.google.com)

## Toxic parts:

all parts

## References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

## Notes on Toxic plant chemicals:

Colchicine is more toxic than colchicine. These chemicals withstand drying, storage, and boiling without losing their toxic

qualities. Colchicine affects the central nervous system, paralyzing nerve endings and blocking neuromuscular connections.

All parts of the plant are poisonous:

- 0.03-0.06% colchicine in the corm (bulb)
- 0.02-0.04% colchicine in the seeds

Ingesting fresh leaves in the following quantities results in death (Cooper and Johnson 1984):

|                          |                        |
|--------------------------|------------------------|
| 8-16 g/kg of body weight | cattle                 |
| 6.4 g/kg body weight     | lambs (2-3 months old) |
| 12 g/kg body weight      | guinea pigs (adult)    |

### **Toxic plant chemicals:**

colchicine  
colchicine

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[abdominal pains](#)  
[collapse](#)  
[death by asphyxiation](#)  
[depression](#)  
[diarrhea](#)  
[incoordination](#)  
[teeth grinding](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Dogs**

### **Goats**

## Horses

### General symptoms of poisoning:

[collapse](#)

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## Humans

### General symptoms of poisoning:

[abdominal pains](#)

[colic](#)

[collapse](#)

[diarrhea](#)

[hemoglobinuria](#)

[mouth, irritation of](#)

[nausea](#)

[thirsty](#)

[vomiting](#)

### Notes on poisoning:

Humans and other animals exhibit similar symptoms of colchicine poisoning. Symptoms develop 2-7 h after ingestion. Recovery is slow and relapse may occur, resulting in paralysis, respiratory or heart failure, and death. Temporary hair loss may occur (Cooper and Johnson 1984, Hill and Duke 1986).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Hill, S. R., Duke, P. K. 1986. 100 poisonous plants of Maryland. Univ. MD. Coop. Ext. Serv. Bull., 314. 55 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

## Sheep

### General symptoms of poisoning:

[collapse](#)

[depression](#)

[diarrhea](#)

[salivation](#)

## References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## Swine

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## [Notes on poisoning: avocado](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Avocado (*Persea americana*) is a common exotic fruit. The seeds are often planted to produce foliage plants in households. In California, Guatemalan cultivars have caused toxic affects in cattle, goats, rabbits, canaries, and fish. Family pets should be prevented from ingesting the leaves. The seeds have caused toxicity and death in canaries and have experimentally poisoned mice. Leaves should not be allowed to fall accidentally into fish tanks (Hurt 1943, Fuller and McClintock 1986).

### References:

- Appleman, D. 1944. Preliminary report on toxicity of avocado leaves. Calif. Avocado Soc. Yearbook, 1944: 37.
- Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.
- Hurt, L. M. 1943. Avocado poisoning. LA. County Livestock Dep. Ann. Rep., 1943: 43-44.

### Nomenclature:

Scientific Name: *Persea americana* Mill.

Vernacular name(s): avocado

Scientific family name: *Lauraceae*

Vernacular family name: laurel

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Persea americana](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.
- Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ.,

Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

avocado:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Ingesting the leaves, branches, or seeds has caused lung congestion and udder inflammation (Fuller and McClintock 1986).

### **Toxic parts:**

leaves  
seeds  
twigs

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California.

Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[mastitis](#)

#### **Notes on poisoning:**

Ingesting avocado leaves and bark has caused lung congestion, mastitis, tissue edema, milk reduction, and death (when large quantities of leaves were consumed). Other mammal species that were poisoned after ingesting avocado showed similar symptoms (Hurt 1943).

#### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Hurt, L. M. 1943. Avocado poisoning. LA. County Livestock Dep. Ann. Rep., 1943: 43-44.

### **Goats**

#### **General symptoms of poisoning:**

[mastitis](#)

#### **References:**

Hurt, L. M. 1943. Avocado poisoning. LA. County Livestock Dep. Ann. Rep., 1943: 43-44.

### **Rabbits**

#### **General symptoms of poisoning:**

[death](#)

[death by asphyxiation](#)

[mastitis](#)

#### **Notes on poisoning:**

Rabbits were poisoned when given access to avocado leaves. The rabbits developed mastitis and dried up. Experimental feeding of "Fuerte," a Guatemalan avocado cultivar, has caused poisoning and death in rabbits. Mexican cultivars have not caused poisoning (Hurt 1943, Appleman 1944).

## References:

Appleman, D. 1944. Preliminary report on toxicity of avocado leaves. Calif. Avocado Soc. Yearbook, 1944: 37.

Hurt, L. M. 1943. Avocado poisoning. LA. County Livestock Dep. Ann. Rep., 1943: 43-44.

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| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: bird rape](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Bird rape (*Brassica campestris*) includes the vegetables turnip and chinese cabbage. These plants can accumulate toxic quantities of SMCO, which poisoned several types of livestock after they ingested sufficient quantities (Benevenga et al. 1985). Please see the expanded notes on poisoning by this chemical under kale (*Brassica oleracea*) and the effects on various livestock animals.

### References:

Benevenga, N. J., Case, G. L., Steele, R. D. 1989. Occurrence and metabolism of s-methyl-l-cysteine and s-methyl-l-cysteine sulfoxide in plants and their toxicity and metabolism in animals. Pages 203-228 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

### Nomenclature:

Scientific Name: *Brassica campestris* L.

Vernacular name(s): bird rape

Scientific family name: *Cruciferae*

Vernacular family name: mustard

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Brassica campestris](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

bird rape:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The quantities of SMCO vary amongst the plant parts and in relation to the maturity of the plant (Benevenga et al. 1989).

### **Toxic parts:**

flowers  
leaves  
stems

### **References:**

Benevenga, N. J., Case, G. L., Steele, R. D. 1989. Occurrence and metabolism of s-methyl-l-cysteine and s-methyl-l-cysteine

sulfoxide in plants and their toxicity and metabolism in animals. Pages 203-228 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

**Notes on Toxic plant chemicals:**

This species can produce toxic quantities of SMCO (S-methyl-L-cysteine sulfoxide) (Benevenga et al. 1989).

**Toxic plant chemicals:**

S-methyl-L-cysteine sulfoxide (SMCO)

**References:**

Benevenga, N. J., Case, G. L., Steele, R. D. 1989. Occurrence and metabolism of s-methyl-l-cysteine and s-methyl-l-cysteine sulfoxide in plants and their toxicity and metabolism in animals. Pages 203-228 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

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Date modified: 2009-09-01

[Important Notices](#)



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|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
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## [Notes on poisoning: black cherry](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### **General poisoning notes:**

Black cherry (*Prunus serotina*) is a native tree found in eastern Canada. It is occasionally cultivated as an ornamental. The plant contains chemicals that can release hydrogen cyanide in animals. All types of animals can be poisoned by ingesting leaves and twigs. There have been claims of children dying after ingesting an excessive number of seeds, found in the berries. Cyanide poisoning interferes with respiration and blood circulation; death is often swift (Kingsbury 1964, Cheeke 1983, Cheeke and Schull 1985).

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Hardin, J. W., Arena, J. M. 1969. Human poisoning from native and cultivated plants. Duke University Press, Durham, N.C., USA. 167 pp.

Keeler, R. F. 1983. Naturally occurring teratogens from plants. Pages 161-199 in Keeler, R. F., Tu, A. T., eds. Handbook of natural toxins. Vol. 1. Plant and Fungal toxins. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Mulligan, G. A., Munro, D. B. 1981. The biology of Canadian weeds. 51. *Prunus virginiana* L. and *P. serotina* Ehrh. Can. J. Plant Sci., 61: 977-992.

### **Nomenclature:**

Scientific Name: *Prunus serotina* Ehrh.

Vernacular name(s): black cherry

Scientific family name: *Rosaceae*

Vernacular family name: rose

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Prunus serotina](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

New Brunswick  
Nova Scotia  
Ontario  
Quebec

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

black cherry:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

The leaves of black cherry contain on average of 212 mg hydrocyanic acid (HCN) per 100 g of fresh leaves. A lethal dose of HCN for humans is between 0.5 and 0.35 mg/kg of body weight. The lethal dose of HCN for cattle and sheep is about 2.0 mg/kg of

body weight (Kingsbury 1964).

**Toxic parts:**

leaves  
seeds  
twigs

**References:**

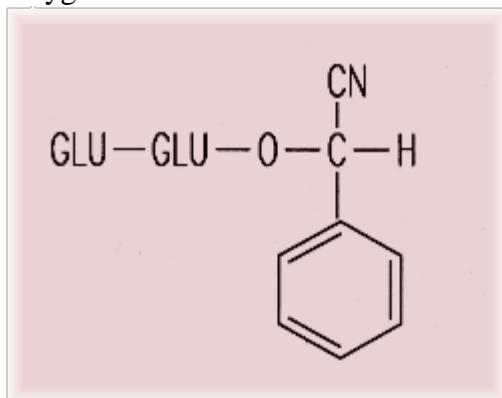
Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

**Notes on Toxic plant chemicals:**

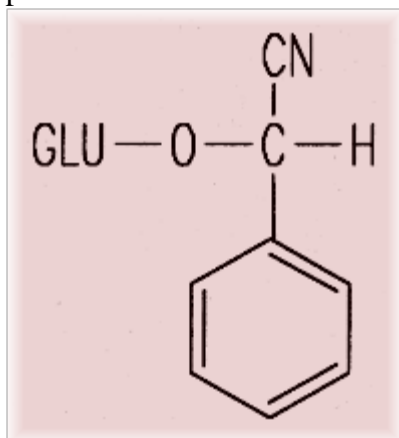
Two cyanogenic glycosides are found in black cherry. Amygdalin and prunasin are found in the leaves, twigs, and seeds (Cheeke and Schull 1985). Hydrogen cyanide is formed when the glycosides are hydrolyzed by plant enzymes after damage or by rumen organisms. Majak et al. (1990) found that cyanide production is most rapid in cattle that had been starved for a day. High rates of cyanide production were obtained in the rumen after the animal ingested fresh alfalfa and cubed alfalfa hay.

**Toxic plant chemicals:**

amygdalin



prunasin



Chemical diagram(s) are courtesy of Ruth McDiarmid,

Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Majak, W., McDiarmid, R. E., Hall, J. W., Cheng, K.-J. 1990. Factors that determine rates of cyanogenesis in bovine ruminal fluid in vitro. J. Anim. Sci., 68: 1648-1655.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### **Cattle**

##### **General symptoms of poisoning:**

[breathing, labored](#)  
[death by asphyxiation](#)  
[gait, staggering](#)  
[muscle spasms](#)  
[pupil dilation](#)

##### **Notes on poisoning:**

Symptoms of cyanide poisoning are common to all animals. Symptoms may be minimal, with difficult breathing followed by death. Other signs of toxicity may include a short period of stimulation followed by slow pulse, dilated pupils, spasms, staggering, loss of consciousness, and death, which results from asphyxiation. Postmortem findings include bright red blood and congestion of internal organs (Kingsbury 1964, Scimeca and Oehme 1985).

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

#### **Horses**

##### **General symptoms of poisoning:**

[breathing, labored](#)  
[coma](#)  
[death by asphyxiation](#)

[dyspnea](#)  
[gait, staggering](#)  
[muscle spasms](#)  
[paralysis](#)

**Notes on poisoning:**

See notes under cattle for more information.

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

**Humans**

**General symptoms of poisoning:**

[abdominal pains](#)  
[coma](#)  
[death](#)  
[lethargy](#)  
[sweating](#)  
[vomiting](#)

**Notes on poisoning:**

Ingesting large quantities of berries has caused poisoning, because of the toxin in the seeds. Children have been poisoned by chewing twigs or drinking tea made from the leaves. Symptoms include difficult breathing, voice paralysis, twitching, spasms, coma of short duration, and death. Cyanide poisoning can occur quickly, with few symptoms (Hardin and Arena 1969).

**References:**

Hardin, J. W., Arena, J. M. 1969. Human poisoning from native and cultivated plants. Duke University Press, Durham, N.C., USA. 167 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

**Sheep**

**General symptoms of poisoning:**

[breathing, labored](#)  
[coma](#)  
[convulsions](#)  
[death by asphyxiation](#)  
[gait, staggering](#)  
[muscle spasms](#)  
[paralysis](#)



[unconsciousness](#)

**Notes on poisoning:**

See notes under cattle for more information.

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

**Swine**

**General symptoms of poisoning:**

[limbs,lateral rotation](#)

**References:**

Keeler, R. F. 1983. Naturally occurring teratogens from plants. Pages 161-199 in Keeler, R. F., Tu, A. T., eds. Handbook of natural toxins. Vol. 1. Plant and Fungal toxins. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

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## [Notes on poisoning: black henbane](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Black henbane (*Hyoscyamus niger*) is a naturalized herb found across parts of southern Canada. This plant contains several alkaloids, and it has caused rare poisoning in humans, cattle, poultry, and swine. Human poisoning has been accidental or purposeful because of its reported medicinal or hallucinogenic properties. Black henbane has been used medicinally since ancient times to help with a variety of health problems and as a preventative. Its hallucinogenic effects have led people to eat the seed or chew the flowers, often with detrimental results. Ingestion causes anticholinergic syndrome with stimulatory and hallucinatory effects (Hocking 1947, Spoerke et al. 1987). Cattle have been poisoned in Europe after ingesting black henbane that was included in forage. The alkaloid content is retained upon drying, and ingestion is said to taint the milk of cows. Poultry have died after ingesting the seeds, and pigs have died after eating the roots (Cooper and Johnson 1984, Spoerke et al. 1987).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Hocking, G. M. 1947. Henbane - healing herb of Hercules and of Apollo. Econ. Bot., 1: 306-316.

Spoerke, D. G., Hall, A. H., Dodson, C. D., Stermitz, F. R., Swanson, C. H., Rumack, B. H. 1987. Mystery root ingestion. J. Emerg. Med., 5: 385-388.

### Nomenclature:

Scientific Name: *Hyoscyamus niger* L.

Vernacular name(s): black henbane

Scientific family name: *Solanaceae*

Vernacular family name: nightshade

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Hyoscyamus niger](#)

## References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

## Geographic Information

Alberta  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Quebec  
Saskatchewan

## References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## Image or illustration

black henbane:

Images: [images.google.com](http://images.google.com)

## Notes on Poisonous plant parts:

All parts of the plant contain alkaloids in varying quantities (see the additional notes under chemicals). Ingestion of four flowers has caused some symptoms in humans (Frohne and Pfander 1983, Spörke et al. 1987).

**Toxic parts:**

all parts  
flowers  
leaves  
roots  
seeds

**References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

**Notes on Toxic plant chemicals:**

Hyoscyamine, hyoscine, and atropine can all be found in black henbane. The alkaloid content has been measured at 0.08% (roots), 0.17% (leaves), and 0.3% (seeds). The major affect of hyoscyamine is depression of the central nervous system (Frohne and Pfander 1983; Cooper and Johnson 1984).

**Toxic plant chemicals:**

atropine  
hyoscine(scopolamine)  
hyoscyamine

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[bloat](#)  
[breathing, labored](#)  
[convulsions](#)  
[cyanosis](#)  
[heart rate, elevated](#)  
[incoordination](#)  
[pupil dilation](#)  
[restlessness](#)

**Notes on poisoning:**

Symptoms of ingestion include restlessness, excitation, convulsions, pupil dilation, difficulty in breathing, increased heart rate, and bloat. Postmortem examination showed degeneration of heart muscle and cyanosis of mucous membranes (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Humans**

#### **General symptoms of poisoning:**

[coma](#)

[confusion](#)

[death](#)

[hallucination](#)

[mouth dry](#)

[nausea](#)

[pupil dilation](#)

[skin, flushed](#)

[vomiting](#)

#### **Notes on poisoning:**

Symptoms of poisoning include thirst, dry mouth, dilated pupils, warm and flushed skin, and hallucinations. Purposeless movements, such as picking at the air, have been observed. Heart rate is elevated. These are the symptoms that occur after the roots are ingested. Ingesting the flowers has caused agitation, restlessness, dry skin, and pupil dilation (Spoerke et al. 1987).

### **References:**

Hocking, G. M. 1947. Henbane - healing herb of Hercules and of Apollo. Econ. Bot., 1: 306-316.

Spoerke, D. G., Hall, A. H., Dodson, C. D., Stermitz, F. R., Swanson, C. H., Rumack, B. H. 1987. Mystery root ingestion. J. Emerg. Med., 5: 385-388.

### **Poultry**

### **Swine**

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: black locust](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Black locust (*Robinia pseudoacacia*) is a naturalized shrub or tree that is planted as an ornamental in warmer parts of Canada. The seeds, bark, and leaves contain toxic proteins that have caused sickness and death in cattle, horses, poultry, sheep, and humans. The plant should be considered toxic to all animals if ingested. Children were poisoned (with rare reports of fatalities) after chewing on plant material, especially the bark. This tree can be found around older farms and houses and is also planted along fencerows. Children should be taught not to ingest any parts of the plant. If older trees are cut down in areas where livestock have access, make sure that the animals do not ingest any sprout (sucker) growth that may emerge from the stump (Hansen 1924, Kingsbury 1964, Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Hansen, A. A. 1924. Robinin - a potent plant poison. Better Crops, 22(2): 22-23, 44.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Robinia pseudoacacia* L.

Vernacular name(s): black locust

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Robinia pseudoacacia](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du

Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia

Nova Scotia

Ontario

Prince Edward Island

Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

black locust:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bark

leaves

seeds

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Notes on Toxic plant chemicals:**

Robin (or robinin) and phasin, which are toxic proteins called toxalbumins, are present in black locust. A glycoprotein that agglutinates red blood cells has been extracted from the plant. It is not clear if this is robin or another substance. Experimental feeding to horses has shown the following toxicities:

=> aqueous extract of bark about 0.1% of body weight caused symptoms

=> powdered bark about 0.04% of body weight caused symptoms

The poisonous principle appears to be about one-tenth as toxic to cattle (Kingsbury 1964, Cooper and Johnson 1984).

### **Toxic plant chemicals:**

phasin

robin(in)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[anorexia](#)

[death](#)

[dyspnea](#)

[nausea](#)

[paralysis, posterior](#)

[weakness](#)

#### **Notes on poisoning:**

Cattle that ingested the sprouts and leaves of black locust were poisoned. Experiments show that cattle are 10 times less sensitive to the toxin than horses. Symptoms include anorexia, weakness, posterior paralysis, nausea, coldness of the extremities, and dilation of the pupils. Death occurs in severe cases (Hansen 1924, Kingsbury 1964).

#### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and



Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## Horses

### General symptoms of poisoning:

[anorexia](#)

[death](#)

[nausea](#)

[paralysis, posterior](#)

[pupil dilation](#)

[weakness](#)

### Notes on poisoning:

Horses that ingested black locust leaves, sprouts, and bark were poisoned and died. Symptoms are similar to those of cattle and include anorexia, weakness, posterior paralysis, nausea, coldness of the extremities, and pupil dilation. Symptoms of colic also occur. In severe cases, death occurs. Postmortem findings showed mucous inflammation of the gastrointestinal tract and occasional severe gastroenteritis. In some cases a yellowish pigmentation of the membranes occurred (Hansen 1924, Kingsbury 1964).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## Humans

### General symptoms of poisoning:

[death](#)

[nausea](#)

[pupil dilation](#)

[vomiting](#)

### Notes on poisoning:

Humans, usually children, were poisoned after ingesting the bark of black locust. Symptoms include pupil dilation, feeble pulse, severe vomiting, and a death-like palor. The extremities may become cold. Intestinal inflammation, hemorrhaging of the lymphatic tissues, and possible liver damage often occur. Fatalities are rare. The chances of poisoning are rare. Children should not be allowed to ingest plant material from this tree (Hansen 1924, Kingsbury 1964).

### References:

Hansen, A. A. 1924. Robitin - a potent plant poison. Better Crops, 22(2): 22-23, 44.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## **Poultry**

### **General symptoms of poisoning:**

[liver, congestion of](#)

### **Notes on poisoning:**

Chickens were poisoned after ingesting leaf material. Degenerative changes in the liver and kidney occurred. A toxic phytohemagglutinin extracted from the plant caused fatty degeneration of the liver and death in chick embryos, at doses of 0.25-2.0 mg per egg (Kingsbury 1964, Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## **Sheep**

### **General symptoms of poisoning:**

[anorexia](#)

### **Notes on poisoning:**

Ingesting the seed pods has caused minor illness in sheep (Kingsbury 1964).

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: black nightshade](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Black nightshade (*Solanum nigrum*) is a naturalized herb found scattered across southern Canada in waste places. This plant can be easily confused with eastern black nightshade, a native herb, which is more commonly found in its range in eastern Canada (see taxonomy and distributions in Ogg et al. 1981, Bassett and Munro 1985). Black nightshade contains toxic glycoalkaloids in the plant. The highest concentration is in the green immature berries. All kinds of animals can be poisoned after ingesting nightshade including cattle, sheep, poultry, and swine. Children have been poisoned and have died after ingesting unripe berries. The ripe berries cause reduced symptoms of mild abdominal pains, vomiting, and diarrhea (Cooper and Johnson 1984, Lampe and McCann 1985). Some Canadian garden catalogs sell seed for garden huckleberry (*Solanum melanocerasum* All.; also previously known as *Solanum nigrum* L. var. *guineense* L.). This plant has edible black fruits that can be cooked for use in pies, jams, and preserves. The plant may persist from seed for more than a year in gardens in warmer parts of Canada. There is no evidence that the ripe fruits are toxic. Other species of nightshade occur in Canada, and some may contain small amounts of toxins. Eastern black nightshade (*Solanum ptycanthum* Dun ex DC.) may contain small amounts of toxin in the green berries. Berries of hairy nightshade (*Solanum sarrachoides* Sendt.) have been tested as a teratogen in hamsters but the results were not statistically significant (Keeler et al .1990).

### References:

- Bassett, I. J., [Munro, D. B.](#) 1985. The biology of Canadian weeds. 67. *Solanum ptycanthum* Dun., *S. nigrum* L. and *S. sarrachoides* Sendt. Can. J. Plant Sci., 65: 401-414.
- Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.
- Keeler, R. F., Baker, D. C., Gaffield, W. 1990. Spirosolane-containing *Solanum* species and induction of congenital craniofacial malformations. Toxicol., 28: 873-884.
- Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA.

432 pp.

Ogg, A. G., Rogers, B. S., Schilling, E. E. 1981. Characterization of black nightshade (*Solanum nigrum*) and related species in the United States. *Weed Sci.*, 29: 27-32.

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. *Univ. MD. Agric. Exp. Stn. Bull.*, A10. 312 pp.

### **Nomenclature:**

Scientific Name: *Solanum nigrum* L.

Vernacular name(s): black nightshade

Scientific family name: *Solanaceae*

Vernacular family name: nightshade

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Solanum nigrum](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. *Agric. Can. Publ.*, Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. *Hortus third*. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. *Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot.* 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. *Flore Laurentienne*. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Quebec  
Saskatchewan

## References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## Image or illustration

black nightshade:

Images: [images.google.com](http://images.google.com)

## Notes on Poisonous plant parts:

All parts of the plant contain alkaloids, especially the green immature berries. The concentration increases in the leaves until plant maturity. The ripe black berries contain little alkaloidal content and can sometimes be eaten with no harmful effects (Cooper and Johnson 1984).

## Toxic parts:

all parts  
immature fruit  
leaves

## References:

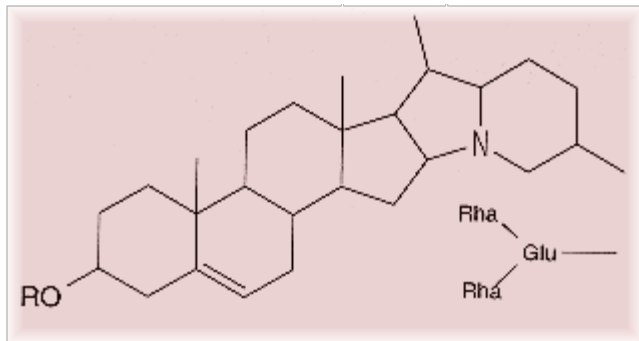
Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## Notes on Toxic plant chemicals:

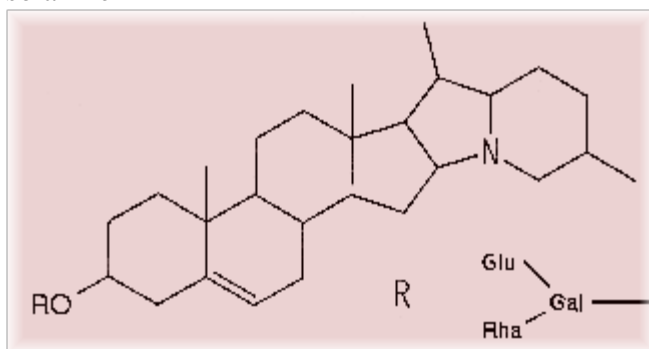
Toxic glycoalkaloids, including solanine, solasodine, and chaconine are found in black nightshade, especially in the green immature berries. Nitrates can also accumulate in the plant material (Cooper and Johnson 1984).

## Toxic plant chemicals:

chaconine



nitrate  
solanine



solasodine

Chemical diagram(s) are courtesy of Ruth McDiarmid,  
Biochemistry Technician, Kamloops Range Station, Agriculture and  
Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain  
and their effects on animals and man. Her Majesty's Stationery  
Office, London, England. 305 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the  
literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

- [breathing, labored](#)
- [constipation](#)
- [death](#)
- [diarrhea](#)
- [incoordination](#)
- [muzzle, dry](#)
- [pupil dilation](#)
- [temperature, depressed](#)

**Notes on poisoning:**

Symptoms of poisoning are similar to those for swine. Cattle can  
also develop edema from the lower jaw to the front of the legs  
(Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain  
and their effects on animals and man. Her Majesty's Stationery  
Office, London, England. 305 pp.

**Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[death](#)

[diarrhea](#)

[dizziness](#)

[temperature, elevated](#)

[unconsciousness](#)

[vomiting](#)

### **Notes on poisoning:**

Humans have been poisoned and have died (rarely) after ingesting usually green immature berries. Ripe, black berries have little toxin in them, although abdominal pains and vomiting could occur. Symptoms usually occur only after a latent period of several hours and may persist for several days. Symptoms resemble those of bacterial gastroenteritis and include headache, speech impairment, and unconsciousness (Cooper and Johnson 1984, Lampe and McCann 1985).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Poultry**

#### **General symptoms of poisoning:**

[death](#)

#### **Notes on poisoning:**

In one case in Maryland, over 300 pullets died when they were allowed to feed on a field overgrown with black nightshade (Reynard and Norton 1942).

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Swine**

#### **General symptoms of poisoning:**

[breathing, rapid](#)

[death](#)

[incoordination](#)

[muscle spasms](#)

[temperature, depressed](#)

### **Notes on poisoning:**

Pigs have been poisoned after ingesting black nightshade. Symptoms included rapid pulse and respiration, pale mucous membranes, dilated pupils, depressed temperature, incoordination, and tremors (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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Date modified: 2009-09-01 [Important Notices](#)





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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: black oak](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Black oak (*Quercus velutina*) is a native tree found only in southern Ontario. The acorns contain significant quantities of toxic phenolics. This plant caused sickness and death in cattle after they ingested acorns on autumn pastures. The occurrence of poisoning from black oak in southern Ontario is minimal because of its restricted distribution (Sandusky et al. 1977, Basden and Dalvi 1987).

### References:

Basden, K. W., Dalvi, R. R. 1987. Determination of total phenolics in acorns from different species of oak trees in conjunction with acorn poisoning in cattle. *Vet. Hum. Toxicol.*, 29: 305-306.

Cockrill, J. M., Beasley, J. N. 1979. Renal damage to cattle during acorn poisoning. *Vet. Med. Small Anim. Clin.*, 74: 82, 84-85.

Sandusky, G. E., Fosnaugh, C. J., Smith, J. B., Mohan, R. 1977. Oak poisoning of cattle in Ohio. *J. Am. Vet. Med. Assoc.*, 171: 627-629.

### Nomenclature:

Scientific Name: *Quercus velutina* Lam.

Vernacular name(s): black oak

Scientific family name: *Fagaceae*

Vernacular family name: beech

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Quercus velutina](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

black oak:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Ingesting oak leaves and acorns has caused poisoning. Immature acorns contain more toxin than mature acorns (Sandusky et al. 1977).

### **Toxic parts:**

acorns  
leaves

### **References:**

Sandusky, G. E., Fosnaugh, C. J., Smith, J. B., Mohan, R. 1977. Oak poisoning of cattle in Ohio. J. Am. Vet. Med. Assoc., 171: 627-629.

### **Notes on Toxic plant chemicals:**

See notes under chemical section of red oak ( [Quercus rubra](#) ).

### **Toxic plant chemicals:**

gallic acid  
pyrogallol

tannic acid

### **References:**

Basden, K. W., Dalvi, R. R. 1987. Determination of total phenolics in acorns from different species of oak trees in conjunction with acorn poisoning in cattle. *Vet. Hum. Toxicol.*, 29: 305-306.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[anorexia](#)

[ascites](#)

[constipation](#)

[diarrhea](#)

[hematuria](#)

[kidney failure](#)

### **References:**

Cockrill, J. M., Beasley, J. N. 1979. Renal damage to cattle during acorn poisoning. *Vet. Med. Small Anim. Clin.*, 74: 82, 84-85.

Sandusky, G. E., Fosnaugh, C. J., Smith, J. B., Mohan, R. 1977. Oak poisoning of cattle in Ohio. *J. Am. Vet. Med. Assoc.*, 171: 627-629.

### **Horses**

### **Sheep**

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[Important Notices](#)



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## [Notes on poisoning: black walnut](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Black walnut (*Juglans nigra*) is native to southwestern Ontario and has been planted as a cultivated tree. The shavings of wood from this tree have caused laminitis in horses in the United States. Black walnut shavings are less likely to be used as bedding in Canada because the tree is not common here. However, if bedding is obtained from a hardwood mill or furniture manufacturing plant, sufficient black black walnut shavings may be present to cause problems. Reforestation of black walnut has been attempted in southern Ontario by leaving nuts for squirrels to gather in the autumn. The squirrel bury them for the winter, allowing many black walnut trees to germinate by this method. Pollen of black walnut has been implicated in causing laminitis in horses (MacDaniels 1983, Minnick et al. 1987).

### References:

Galey, F. D., Whiteley, H. E., Goetz, T. E., Kuenstler, A. R., Davis, C. A., Beasley, V. R. 1991. Black walnut (*Juglans nigra*) Toxicosis: a model for equine laminitis. *J. Comp. Pathol.*, 104: 313-326.

MacDaniels, L. H. 1983. Perspective on the black walnut toxicity problem - apparent allergies to man and horse. *Cornell Vet.*, 73: 204-207.

Minnick, P. D., Brown, C. M., Braselton, W. E., Meerdink, G. L., Slanker, M. R. 1987. The induction of equine laminitis with an aqueous extract of the heartwood of black walnut (*Juglans nigra*). *Vet. Hum. Toxicol.*, 29: 230-233.

True, R. G., Lowe, J. E. 1980. Induced juglone toxicosis in ponies and horses. *Am. J. Vet. Res.*, 41: 944-945.

### Nomenclature:

Scientific Name: *Juglans nigra* L.

Vernacular name(s): black walnut

Scientific family name: *Juglandaceae*

Vernacular family name: walnut

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Juglans nigra](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Ontario

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

black walnut:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

Wood shavings of black walnut have caused symptoms in horses. The chemical juglone has not been found in appreciable amounts in the wood. Other chemicals are probably involved in causing symptoms in horses from wood shavings (Minnick et al. 1987).

### Toxic parts:

bark

mature fruit

wood

### References:

Minnick, P. D., Brown, C. M., Braselton, W. E., Meerdink, G. L., Slanker, M. R. 1987. The induction of equine laminitis with an aqueous extract of the heartwood of black walnut (*Juglans nigra*). Vet. Hum. Toxicol., 29: 230-233.

### Notes on Toxic plant chemicals:

Juglone, a naphthoquinone, has been found in the bark, nuts, and roots of black walnut. Pure juglone is less potent than a crude extract of the plant in inducing toxic effects. Additional compounds seem to be involved in causing more severe cases. Two ponies given 1 g of pure juglone orally developed mild laminitis that disappeared within 24 h (Minnick et al. 1987).

### Toxic plant chemicals:

juglone

### References:

Minnick, P. D., Brown, C. M., Braselton, W. E., Meerdink, G. L., Slanker, M. R. 1987. The induction of equine laminitis with an aqueous extract of the heartwood of black walnut (*Juglans nigra*). Vet. Hum. Toxicol., 29: 230-233.

True, R. G., Lowe, J. E. 1980. Induced juglone toxicosis in ponies and horses. Am. J. Vet. Res., 41: 944-945.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Horses

#### General symptoms of poisoning:

[ataxia](#)  
[breathing, rapid](#)  
[depression](#)  
[laminitis](#)  
[lethargy](#)  
[recumbency](#)

### References:

Galey, F. D., Whiteley, H. E., Goetz, T. E., Kuenstler, A. R., Davis, C. A., Beasley, V. R. 1991. Black walnut (*Juglans nigra*) Toxicosis: a model for equine laminitis. J. Comp. Pathol., 104: 313-326.

MacDaniels, L. H. 1983. Perspective on the black walnut toxicity problem - apparent allergies to man and horse. Cornell Vet., 73: 204-207.

Minnick, P. D., Brown, C. M., Braselton, W. E., Meerdink, G. L., Slanker, M. R. 1987. The induction of equine laminitis with an aqueous extract of the heartwood of black walnut (*Juglans nigra*). Vet. Hum. Toxicol., 29: 230-233.

True, R. G., Lowe, J. E. 1980. Induced juglone toxicosis in ponies and horses. Am. J. Vet. Res., 41: 944-945.

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## [Notes on poisoning: black-eyed Susan](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Black-eyed Susan (*Rudbeckia laciniata*) is a native herb that grows across southern Canada. This plant occurs in fields and is sometimes found in disturbed habitats. Ingesting plants caused poisoning in cattle and swine. Symptoms were mild. Poisoning from this plant is unlikely (Kingsbury 1964, Fleurbec 1983).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Rudbeckia serotina* Nutt.

Vernacular name(s): black-eyed Susan

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rudbeckia serotina](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus



Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

black-eyed Susan:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Ingesting aboveground portions of the plants has caused poisoning in some animals (Kingsbury 1964).

### **Toxic parts:**

flowers  
hairs  
leaves  
stems

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[gastroenteritis](#)

#### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Swine**

#### **General symptoms of poisoning:**

[coma](#)

#### **Notes on poisoning:**

Swine that ingested black-eyed Susan suffered from coma and periods of aimless wandering (Kingsbury 1964).

#### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                            |                       |  |                             |
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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: blue cardinalflower](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Blue cardinalflower (*Lobelia siphilitica*) is a native herb found along wet river banks in southern Ontario. This plant contains an alkaloid, lobeline, that caused poisoning when the extract was used as a home remedy. For more information, see the notes under Indian- tobacco ([Lobelia inflata](#)).

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Lobelia siphilitica* L.

Vernacular name(s): blue cardinalflower

Scientific family name: *Campanulaceae*

Vernacular family name: bellflower

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lobelia siphilitica](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

blue cardinalflower:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Toxic plant chemicals:**

lobeline

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

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| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: blue cohosh](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Blue cohosh (*Caulophyllum thalictroides*) is a native plant found in rich woods in eastern Canada. The plant contains chemicals that can cause cell damage. Experiments show that handling powdered root can cause irritation of mucous membranes, with possible dermatitis. No case histories of poisoning were found in the literature, but the plant has poisoning potential. Children should not be allowed to eat the attractive blue fruits of this plant (Muenscher 1975, Lampe and McCann 1985). No references were found of poisoning of livestock.

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Caulophyllum thalictroides* (L.) Michaux

Vernacular name(s): blue cohosh

Scientific family name: *Berberidaceae*

Vernacular family name: barberry

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Caulophyllum thalictroides](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

blue cohosh:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The berries and roots contain chemicals that are cytotoxic, causing cell damage. The plant is extremely bitter and is not usually ingested by livestock. (Muenscher 1975, Lampe and McCann 1985).

### **Toxic parts:**

mature fruit  
roots

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Muenscher, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

### **Notes on Toxic plant chemicals:**

An alkaloid and saponins occur in this plant. The chemicals are cytotoxic, damaging animal cells. The plant is reported to have

orally active oxytocic substances, which cause uterine contractions (Ferguson and Edwards 1954, Lampe and McCann 1985).

**Toxic plant chemicals:**

N-methylcytisine

**References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Humans**

**General symptoms of poisoning:**

[mouth, irritation of](#)

**References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: blue flag iris](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Blue flag (*Iris versicolor*) is a native herb found in eastern and central Canada. This plant has been mentioned as causing poisoning in humans and animals, but case reports have not been found. The plant juice can cause dermatitis in sensitive individuals. Other iris species have also been implicated in poisoning of animals and in causing dermatitis in humans (see additional information under [Iris pseudacorus](#)). Because of the potential for poisoning, care should be taken to prevent access by livestock to blue flag, which grows in moist soils near rivers, lakes, and marshes (Fyles 1920, Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

### Nomenclature:

Scientific Name: *Iris versicolor* L.

Vernacular name(s): blue flag iris

Scientific family name: *Iridaceae*

Vernacular family name: iris

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Iris versicolor](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

blue flag iris:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

rhizome

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

### **Notes on Toxic plant chemicals:**

A glycoside, iridin (or irisin), has been implicated as the toxic compound in iris species, although this has not been confirmed (Fyles 1920, Cooper and Johnson 1984).

**Toxic plant chemicals:**

iridin

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**Humans**

**General symptoms of poisoning:**

[abdominal pains](#)

[nausea](#)

[vomiting](#)

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

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[Important Notices](#)



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|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: blueweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### **General poisoning notes:**

Blueweed (*Echium vulgare*) is a naturalized biennial herb found in fields and waste places across Canada. The bristly hairs on this plant cause skin irritation. There is no mention of whether the irritation is purely mechanical or whether it is caused by chemicals in the hairs on the leaves and stems. This plant may also contain pyrrolizidine alkaloids including heliosupine (Cheeke 1989, Cooper and Johnson 1984). Poisoning by this plant has not been reported. Purple bugloss (*Echium lycopsis* L. = *Echium plantagineum* L.) has been collected in Canada on a couple of occasions, but it does not persist. This species does contain several pyrrolizidine alkaloids, including echimidine, echiumine, and heliotrine. The plant has caused death of horses and liver damage of sheep in Australia (Cooper and Johnson 1984, Cheeke 1989). Lampe and McCann (1985) discuss toxicity of both species to humans after ingestion of herbal teas containing *Echium* spp. Chronic consumption can cause veno-occlusive disease of the liver (Budd-Chiari syndrome), with hepatic vein thrombosis leading to cirrhosis. Purple bugloss (*Echium lycopsis*), which is discussed above, contains chemicals that can cause this type of problem. However, it does not appear to persist in Canada. There is no information in the literature on blueweed causing such poisoning, but it may contain pyrrolizidine alkaloids (Cheeke 1989). Caution is obviously warranted. Teas containing either of these plants should not be used by humans.

### **References:**

Cheeke, P. R. 1989. Pyrrolizidine alkaloid toxicity and metabolism in laboratory animals and livestock. Pages 1-22 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Nomenclature:**

Scientific Name: *Echium vulgare* L.

Vernacular name(s): blueweed

Scientific family name: *Boraginaceae*

Vernacular family name: borage

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Echium vulgare](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Quebec  
Saskatchewan

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

blueweed:

**Images:** [images.google.com](http://images.google.com)

**Notes on Poisonous plant parts:**

The bristly hairs covering the stem and leaves produce severe inflammation when they break off and become imbedded in the skin (Muenscher 1975).

**Toxic parts:**

hairs

**References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

**Notes on Toxic plant chemicals:**

Cheeke (1989) mentions that blueweed contains pyrrolizidine alkaloids, but no further information is given. Another member of the genus (*Echium lycopsis*) contains several alkaloids that have caused poisoning of animals in Australia.

**Toxic plant chemicals:**

unknown chemical

**References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Humans**

**General symptoms of poisoning:**

[itchiness](#)

**Notes on poisoning:**

The hairs on blueweed cause intense itchiness and skin irritation (Muenscher 1975).

**References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous

and injurious plants. American Medical Assoc. Chicago, Ill., USA.  
432 pp.

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[Important Notices](#)



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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: bog-laurel](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Bog-laurel (*Kalmia polifolia*) is a native shrub found across Canada in boggy areas. The plant has caused experimental poisoning in cattle, goats, and sheep, with sheep being most susceptible. Suspected poisoning of cattle and sheep in the west have been reported. Bog-laurel is less toxic than sheep-laurel (*Kalmia angustifolia*). Only the western variety of bog-laurel (*Kalmia polifolia* var. *microphylla*) has been tested for toxicity. However, the plant should be considered potentially toxic through its entire range in Canada (Clawson 1933, Kingsbury 1964, Lampe and McCann 1985).

### References:

Clawson, A. B. 1933. Alpine kalmia (*Kalmia microphylla*) as a stock-poisoning plant. U. S. Dep. Agric. Tech. Bull., 391. 10 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Kalmia polifolia* Wang

Vernacular name(s): bog-laurel

Scientific family name: *Ericaceae*

Vernacular family name: heath

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Kalmia polifolia](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and



botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

bog-laurel:

Images: [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of the plant are poisonous including the nectar, which can result in poisonous honey. The leaves have been used in experiments to poison livestock (Clawson 1933, Fuller and McClintock 1986).

### **Toxic parts:**

all parts  
leaves  
stems

**References:**

Clawson, A. B. 1933. Alpine kalmia (*Kalmia microphylla*) as a stock-poisoning plant. U. S. Dep. Agric. Tech. Bull., 391. 10 pp.

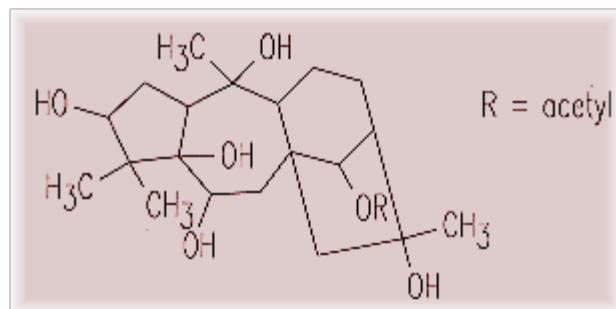
Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

**Notes on Toxic plant chemicals:**

Andromedotoxins (grayanotoxins) are resins derived from diterpenes. Several have been found in many members of the heath family and are toxic if sufficient vegetation is eaten (Kakisawa et al. 1965, Fuller and McClintock 1986).

**Toxic plant chemicals:**

andromedotoxins



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Clawson, A. B. 1933. Alpine kalmia (*Kalmia microphylla*) as a stock-poisoning plant. U. S. Dep. Agric. Tech. Bull., 391. 10 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Kakisawa, H., Kozima, T., Yanai, M., Nakanishi, K. 1965. Stereochemistry of grayanotoxins. Tetrahedron, 21: 3091-3104.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**Goats**

### **General symptoms of poisoning:**

[depression](#)

[nausea](#)

[salivation](#)

[vomiting](#)

### **Notes on poisoning:**

Experimental poisoning of sheep caused such symptoms as depression, salivation, loss of appetite, and vomiting. Grating of teeth and frequent vomiting was noticed in more severe cases. Pulse and body temperature was affected very little. A dosage of green leaves equal to 0.3% of an animal's body weight can cause a toxic response. A dosage of 2% of an animal's body weight caused severe sickness in sheep (Clawson 1933).

### **References:**

Clawson, A. B. 1933. Alpine kalmia (*Kalmia microphylla*) as a stock-poisoning plant. U. S. Dep. Agric. Tech. Bull., 391. 10 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Sheep**

### **General symptoms of poisoning:**

[depression](#)

[gait, staggering](#)

[nausea](#)

[recumbency](#)

[salivation](#)

[vomiting](#)

### **Notes on poisoning:**

Experimental poisoning of sheep caused such symptoms as depression, salivation, loss of appetite, and vomiting. Grating of teeth and frequent vomiting was noticed in more severe cases. Pulse and body temperature was affected very little. A dosage of green leaves equal to 0.3% of an animal's body weight can cause a toxic response. A dosage of 2% of an animal's body weight caused severe sickness in sheep (Clawson 1933).

### **References:**

Clawson, A. B. 1933. Alpine kalmia (*Kalmia microphylla*) as a stock-poisoning plant. U. S. Dep. Agric. Tech. Bull., 391. 10 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: bracken](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Bracken (*Pteridium aquilinum*) is a native fern that grows across most of Canada. This fern has caused sickness and loss of cattle in Canada and in other countries. Cattle, sheep, and wild animals have also been poisoned after ingesting bracken. Bracken contains several chemicals that cause problems. Thiaminase results in vitamin B1 deficiency in nonruminants such as horses and swine. Ptaquiloside, a carcinogen-mutagen, causes acute and chronic symptoms of illness in ruminants. The spores may contain carcinogens that can cause problems to animals and humans. The young fronds of bracken are ingested as human food, especially in Japan. They contain significant quantities of the carcinogen (Cheeke and Schull 1985, Fenwick 1988, Hirono 1989).

### References:

- [Cody, W. J.](#), [Crompton, C. W.](#) 1975. The biology of Canadian weeds. 15. *Pteridium aquilinum* (L.) Kuhn. Can. J. Plant Sci., 55: 1059-1072.
- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- Evans, I. A. 1976. Relationship between bracken and cancer. Bot. Linn. Soc., 73: 105-112.
- Fenwick, G. R. 1988. Bracken (*Pteridium aquilinum*) - toxic effects and toxic constituents. J. Sci. Food Agric., 46: 147-173.
- Hirono, I. 1989. Carcinogenic bracken glycosides. Pages 239-251 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.
- Hopkins, A. 1990. Bracken (*Pteridium aquilinum*): its distribution and animal health implications. Agric. Can. Res. Branch Contrib., 146: 316-326.
- Kelleway, R. A., Geovjian, L. 1978. Acute bracken fern poisoning in a 14-month-old horse. Vet. Med. Small Anim. Clin., 73: 295-296.
- Milne, R. 1988. Heathlands of England harbour cancer spores. New

Sci., 118: 23.

**Nomenclature:**

Scientific Name: *Pteridium aquilinum* (L.) Kuhn

Vernacular name(s): bracken

Scientific family name: *Polypodiaceae*

Vernacular family name: ffern

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Pteridium aquilinum](#)

**References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

**Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

**References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

bracken:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of bracken contain toxic chemicals. Ingesting fresh or dry fronds (leaves) or underground rhizomes has caused toxic signs and death in ruminants and nonruminants. After ingesting the young fronds, animals were found to be affected by carcinogenic compounds that the young fronds contain; these compounds may also cause problems in humans. The spores appear to be the most carcinogenic part of bracken and may cause problems in livestock. Humans who work outdoors in areas where bracken grows abundantly could also be at risk from the spores (Milne and Fenwick 1988, Milne 1988, Hirono 1989).

### **Toxic parts:**

all parts  
leaves  
rhizome  
spores  
young shoots

### **References:**

Fenwick, G. R. 1988. Bracken (*Pteridium aquilinum*) - toxic effects and toxic constituents. J. Sci. Food Agric., 46: 147-173.

Hirono, I. 1989. Carcinogenic bracken glycosides. Pages 239-251 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

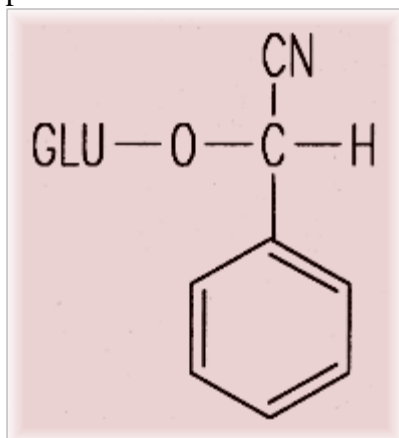
### **Notes on Toxic plant chemicals:**

A group of chemical compounds have been implicated in the various toxic properties of bracken. Thiaminase, an enzyme that decomposes vitamin B1, has caused toxic problems, particularly in nonruminants, which cannot synthesize their own vitamin B1. Ptaquiloside and aquilide A possess an unusual, planar, illudane norsesquiterpene skeleton. Under alkaline conditions these chemicals yield pterosin B, a proximate carcinogenin-mutagen. Pterosin B has been implicated as a cause of the cancers noted after bracken ingestion, and ptaquiloside has been implicated as a contributor to the toxic signs in ruminant animals (Cheeke and Schull 1988, Fenwick 1988). Bracken also contains prunasin, a cyanogenic glycoside, which appears to be a deterrent to herbivory (Tewe and Iyayi 1989).

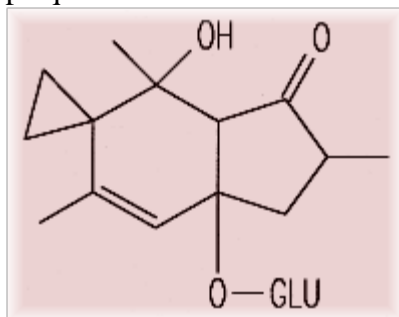
### Toxic plant chemicals:

aquilide A

prunasin



ptaquiloside



thiaminase

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- Fenwick, G. R. 1988. Bracken (*Pteridium aquilinum*) - toxic effects and toxic constituents. J. Sci. Food Agric., 46: 147-173.
- Hirono, I. 1989. Carcinogenic bracken glycosides. Pages 239-251 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.
- Tewe, O. O., Iyayi, E. A. 1989. Cyanogenic glycosides. Pages 43-60 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the



literature (as of 1993) contained no detailed explanation.

## **Cattle**

### **General symptoms of poisoning:**

[anemia](#)

[bone marrow damage](#)

[cancer and tumors](#)

[death](#)

[hemorrhage](#)

### **Notes on poisoning:**

Consuming significant quantities of bracken fronds can cause bracken poisoning, which results in bone marrow damage. Only small foci of erythropoietic cells and some megakaryocytes remain. Hemorrhaging occurs, with blood in the feces and bleeding from the nose, vagina, and membranes around the mouth and eyes. Postmortem examination shows hemorrhaging in the stomach, intestines, lungs, and heart (Cheeke and Shull 1985, Fenwick 1988, Hirono 1989).

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Fenwick, G. R. 1988. Bracken (*Pteridium aquilinum*) - toxic effects and toxic constituents. J. Sci. Food Agric., 46: 147-173.

Hirono, I. 1989. Carcinogenic bracken glycosides. Pages 239-251 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

## **Horses**

### **General symptoms of poisoning:**

[anemia](#)

[anorexia](#)

[ataxia](#)

[colic](#)

[convulsions](#)

[death](#)

[gait, staggering](#)

[incoordination](#)

[opisthotonos](#)

[recumbency](#)

[weight loss](#)

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and

poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Fenwick, G. R. 1988. Bracken (*Pteridium aquilinum*) - toxic effects and toxic constituents. J. Sci. Food Agric., 46: 147-173.

Kelleway, R. A., Geovjian, L. 1978. Acute bracken fern poisoning in a 14-month-old horse. Vet. Med. Small Anim. Clin., 73: 295-296.

## **Humans**

### **General symptoms of poisoning:**

[cancer and tumors](#)

### **Notes on poisoning:**

The young fronds of bracken have been used as a food source, particularly in Japan. Ptaquiloside, a carcinogenic compound, has been found in bracken. The toxin is especially abundant in the young fronds. If the fronds are not processed in any way, tumor incidence in rats is 78%. After the fronds are processed with boiling water or are boiled with wood ash, sodium bicarbonate, or salt, the incidence of cancer is reduced to 4-25%. Mammary cancer and ileal and urinary bladder tumors were observed. Cattle develop urinary papilloma. The carcinogen can be transferred by milk. The high incidence of stomach cancer in Japan may be partly due to the consumption of bracken (Cheeke and Schull 1985, Hirono 1989).

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Hirono, I. 1989. Carcinogenic bracken glycosides. Pages 239-251 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

Milne, R. 1988. Heathlands of England harbour cancer spores. New Sci., 118: 23.

## **Sheep**

### **General symptoms of poisoning:**

[blindness](#)

### **Notes on poisoning:**

Sheep in the British Isles have developed a condition called bright blindness. The sheep develop degeneration of the neuroepithelium of the retina, with low counts of blood platelets and white blood cells. This problem has been linked to the consumption of bracken.

Cattle with similar symptoms have been reported (Fenwick 1989).

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Swine**

### **General symptoms of poisoning:**

[appetite, loss of death](#)

### **Notes on poisoning:**

Reports of acute bracken poisoning in swine are infrequent, perhaps because of few symptoms. The symptoms are similar to heart failure. Experimental feeding of dry, powdered rhizomes produced loss of appetite after 8 weeks, followed by rapid deterioration and death 2 weeks later. Postmortem findings revealed damage to the heart. Ingestion by pregnant sows resulted in some death of the piglets after birth (Fenwick 1988).

### **References:**

Fenwick, G. R. 1988. Bracken (*Pteridium aquilinum*) - toxic effects and toxic constituents. J. Sci. Food Agric., 46: 147-173.

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[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: broad bean](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Broad bean (*Vicia faba*) is a cultivated plant that is grown occasionally in Canada. The beans are used as human food and are being evaluated as a protein supplement for livestock. Broad beans are not poisonous to humans in the conventional sense, but they cause favism in susceptible individuals. These individuals have a genetically transmitted, male sex-linked deficiency to the enzyme glucose-6-phosphate dehydrogenase. Certain groups such as Oriental Jews, Mediterranean Europeans, Arabs, Asians, and blacks may have the deficiency. The disease can cause death in severe cases. Livestock, including swine, have also been poisoned from ingesting high quantities of beans. Dietary broad beans can also cause metabolic problems in poultry. It is important to note that nonsusceptible persons who eat broad beans are not at risk (Kingsbury 1964, Cooper and Johnson 1984, Cheeke and Schull 1985, Roy and Spencer 1989).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Liener, I. E. 1989. Antinutritional factors. Pages 339-382 in Matthews, R. H., ed. Legumes: chemistry, technology, and human nutrition. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

### Nomenclature:

Scientific Name: *Vicia faba* L.

Vernacular name(s): broad bean

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Vicia faba](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Plant or plant parts used in or around the home.

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

broad bean:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

Susceptible individuals who ingest raw or partly cooked seeds and inhale pollen can be poisoned (Cooper and Johnson 1984).

### Toxic parts:

pollen  
seeds

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Notes on Toxic plant chemicals:**

Two glycosides, convicine and vicine, and their respective aglycones, isouramil and divicine, are implicated in favism. In individuals with glucose-6-phosphate dehydrogenase (G6PD) deficiency, a cycle is prevented that would normally reduce the oxidants so that they cannot attack the red cell membrane (Cheeke and Schull 1985).

### **Toxic plant chemicals:**

convicine  
vicine

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Liener, I. E. 1989. Antinutritional factors. Pages 339-382 in Matthews, R. H., ed. Legumes: chemistry, technology, and human nutrition. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Chickens**

#### **General symptoms of poisoning:**

[egg production, reduced](#)

#### **Notes on poisoning:**

Unprocessed broad beans contain factors that lower the rate of chicken growth and alter the size of liver and pancreas. Dietary broad beans have a marked influence on the metabolism of laying hens. Vicine, which is thermostable, causes a reduction in the number of ova, in egg weight, in fertility, and in egg hatchability (Cheeke and Schull 1985).

#### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)  
[collapse](#)  
[death](#)  
[dizziness](#)  
[Heinz bodies](#)  
[hemoglobinuria](#)  
[icterus](#)  
[jaundice](#)  
[methemoglobinemia](#)  
[temperature, elevated](#)  
[vomiting](#)

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Swine**

### **General symptoms of poisoning:**

[abdominal pains](#)  
[appetite, loss of](#)  
[constipation](#)  
[depression](#)

### **Notes on poisoning:**

Broad beans are used as animal feed as silage or are added to feed. However, in one case in Poland, pigs were poisoned after eating broad beans as one-third of their diet. Symptoms included depression, reduced activity, flatulence, and constipation. Postmortem examination revealed inflammation of the alimentary tract and pale yellow liver and kidneys (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: broom snakeweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Broom snakeweed (*Gutierrezia sarothrae*) is a native perennial found in western rangelands. This plant has caused acute toxicity and abortion in cattle, which has also been experimentally induced in goats and sheep. The plant is more toxic during the early stages of growth and if it grows on poor, sandy soils. Major losses of cattle through acute toxicity and abortion have occurred in the southern United States, in Texas, and in New Mexico (Kingsbury 1964, Molyneux et al. 1980).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Molyneux, R. J., Stevens, K. L., James, L. F. 1980. Chemistry of toxic range plants. Volatile constituents of broomweed (*Gutierrezia sarothrae*). J. Agric. Food Chem., 28: 1332-1333.

Ralphs, M. H. 1985. Poisonous plants: the snakeweeds. Rangelands, 7(2): 63-65.

### Nomenclature:

Scientific Name: *Gutierrezia sarothrae* (Pursh) Britton & Rusby

Vernacular name(s): broom snakeweed

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Gutierrezia sarothrae](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques



des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
Manitoba  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

broom snakeweed:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

As little as 9 kg of fresh broom snakeweed has produced abortion in cattle within 7 days. Death has been experimentally produced in cattle, sheep, and goats by feeding fresh plants equivalent to 10-20% of body weight for 3 days to 2 weeks (Kingsbury 1964).

### **Toxic parts:**

leaves  
stems

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Molyneux, R. J., Stevens, K. L., James, L. F. 1980. Chemistry of toxic range plants. Volatile constituents of broomweed (*Gutierrezia sarothrae*). J. Agric. Food Chem., 28: 1332-1333.

### **Notes on Toxic plant chemicals:**

The essential oil contains monoterpenes, such as alpha-pinene and geraniol, and sesquiterpenes, such as gamma-humulene. However, Molyneux et al. (1980) do not believe that these chemicals contribute to the abortifacient nature of broom snakeweed. Saponins are believed to be the cause of the toxicity to animals and may also be implicated in the abortifacient fraction (Cheeke and Schull 1985).

### **Toxic plant chemicals:**

alpha-pinene  
gamma-humulene

### **References:**

Molyneux, R. J., Stevens, K. L., James, L. F. 1980. Chemistry of toxic range plants. Volatile constituents of broomweed (*Gutierrezia sarothrae*). J. Agric. Food Chem., 28: 1332-1333.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[abortion](#)  
[anorexia](#)  
[appetite, loss of](#)  
[constipation](#)  
[death](#)  
[diarrhea](#)  
[muzzle, crusty](#)  
[urination, frequent](#)

#### **Notes on poisoning:**

Acute toxicity includes symptoms of listlessness, anorexia, rough coat, diarrhea or constipation, vaginal discharge, and hematuria. Cattle produce a nasal discharge, and the muzzle becomes crusty. Lesions include those of gastroenteritis and degeneration of the kidneys and liver. Severe toxic nephritis with necrosis occurs in serious cases. The spleen may be congested and the uterus, edematous. Abortion is a major result of poisoning. Premature calves are weak or are dead at birth with retained placenta. The pregnant cow may experience swelling of the vulva and early udder development (Kingsbury 1964, Molyneux et al. 1980, Ralphs 1985).

#### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and

Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Ralphs, M. H. 1985. Poisonous plants: the snakeweeds. Rangelands, 7(2): 63-65.

## Goats

### General symptoms of poisoning:

[abortion](#)

[death](#)

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## Sheep

### General symptoms of poisoning:

[abortion](#)

[anorexia](#)

[constipation](#)

[death](#)

[diarrhea](#)

[icterus](#)

[weakness](#)

### Notes on poisoning:

Symptoms of broom snakeweed poisoning in sheep are similar to those in cattle and include anorexia, rough coat, diarrhea or constipation, vaginal discharge, and hematuria. Sheep display minor icterus. Lesions include those of gastroenteritis and degeneration of the liver and kidneys. Toxic nephritis is found in severe cases. Abortion also occurs, but less frequently than in cattle (Kingsbury 1964).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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## [Notes on poisoning: buckwheat](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Buckwheat (*Fagopyrum esculentum*) is cultivated in Canada as a crop for fodder and for the production of buckwheat honey. Ingesting entire plants, dried or fresh, has caused photosensitization in animals with exposed or light-colored skin including cattle, goats, sheep, swine, and turkeys. Exposure to the sun is necessary. This plant is considered to be a primary photosensitizer, although jaundice has occurred concurrently, which indicates secondary involvement of the liver (Cooper and Johnson 1984, Cheeke and Schull 1985). Buckwheat has been found to be an effective replacement for wheat or barley in rations for swine (Anderson and Bowland 1981). Closely related tartary buckwheat (*Fagopyrum tataricum* L.) is also a satisfactory grain replacement in ruminant animals (Nicholson et al. 1976).

Humans can be sensitized to dust from buckwheat flour after long exposure. Asthma is the usual response, although rare individuals may manifest food allergy reactions after ingesting food products containing buckwheat flour. Although to date there have been no peer-reviewed scientific studies which document photosensitization in humans, there have been anecdotal reports of symptoms occurring in humans after the consumption of large quantities of raw buckwheat greens (i.e. the leaves and/or flowers) for their nutritional and antioxidant properties.

### References:

- Anderson, D. M., Bowland, J. P. 1981. Evaluation of buckwheat (*Fagopyrum esculentum*) in diets of growing pigs. Proc. Am. Soc. Anim. Sci. West. Br., 32: 422-425.
- Blumstein, G. I. 1936. Buckwheat sensitivity. J. Allergy, 7: 74-79.
- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.
- Nicholson, J. W., McQueen, R., Grant, E. A., Burgess, P. L. 1976. The feeding value of tartary buckwheat for ruminants. Can. J. Anim.

Sci., 56: 803-808.

**Nomenclature:**

Scientific Name: *Fagopyrum esculentum* Moench

Vernacular name(s): buckwheat

Scientific family name: *Polygonaceae*

Vernacular family name: knotweed

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Fagopyrum esculentum](#)

**References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

**Geographic Information**

Plant or plant parts used in or around the home.

**References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

**Image or illustration**

buckwheat:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Little fagopyrin occurs in the seeds, but ingesting the entire plant, either green or dried, can cause serious photosensitization in livestock (Johnson 1989).

### **Toxic parts:**

all parts  
leaves  
seeds  
stems

### **References:**

Johnson, A. E. 1983. Photosensitizing toxins from plants and their biologic effects. Pages 345-359 in Keeler, R. F., Tu, A. T., eds. Handbook of natural toxins. Vol. 1. Plant and Fungal toxins. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

### **Notes on Toxic plant chemicals:**

Fagopyrin, probably a derivative of naphthodianthrone, is closely related to hypericin, which is found in St. John's-wort ([Hypericum perforatum](#)). The absorption spectra of these chemicals is in the range of 540-610 nm (Johnson 1983).

### **Toxic plant chemicals:**

fagopyrin

### **References:**

Johnson, A. E. 1983. Photosensitizing toxins from plants and their biologic effects. Pages 345-359 in Keeler, R. F., Tu, A. T., eds. Handbook of natural toxins. Vol. 1. Plant and Fungal toxins. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[recumbency](#)  
[skin, peeling of](#)  
[thirsty](#)  
[weakness](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain

and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Goats**

### **General symptoms of poisoning:**

[blistering](#)  
[skin, peeling of](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Humans**

## **Sheep**

### **General symptoms of poisoning:**

[blistering](#)  
[paralysis](#)  
[recumbency](#)  
[skin, peeling of](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Swine**

### **General symptoms of poisoning:**

[blistering](#)  
[skin, peeling of](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Turkeys**

### **General symptoms of poisoning:**

[incoordination](#)  
[skin, peeling of](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain

and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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Date modified: 2009-09-01

[Important Notices](#)





|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: bulbous buttercup](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Bulbous buttercup (*Ranunculus bulbosus*) is a naturalized herb found in a few Canadian provinces. In the past, the juice of this plant was used by beggars in Europe to cause skin lesions, thus eliciting compassion. The volatile chemical protoanemonin is an irritant. Ingesting this plant has poisoned cattle, swine, and humans. The recent literature includes few cases of poisoning (Kingsbury 1964, Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Ranunculus bulbosus* L.

Vernacular name(s): bulbous buttercup

Scientific family name: *Ranunculaceae*

Vernacular family name: crowfoot

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Ranunculus bulbosus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Newfoundland  
Nova Scotia  
Ontario

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

bulbous buttercup:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

plant juices

### **References:**

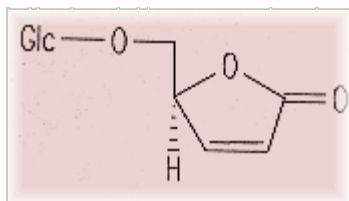
Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Notes on Toxic plant chemicals:**

Ranunculin, a glycoside, occurs in the juice of the buttercups. Upon maceration, a plant enzyme is released that converts ranunculin to protoanemonin. This chemical, a yellow volatile oil, is unstable and either polymerizes to nontoxic anemonin or is volatilized. Air-dried plants, as those found in hay, are nontoxic. Protoanemonin is an irritant that can cause blisters and other problems when ingested (Cooper and Johnson 1984).

### **Toxic plant chemicals:**

ranunculin



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Cattle

#### General symptoms of poisoning:

[breathing, labored](#)  
[gait, unsteady](#)  
[nasal discharge](#)  
[salivation](#)

#### Notes on poisoning:

In one case in Britain, a cow salivated, coughed, and discharged mucous from the nostrils after ingesting buttercup plants. The animal swayed in the hindquarters with an uneasy movement of the legs. A period of noisy breathing preceded recovery (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

#### Humans

#### General symptoms of poisoning:

[abdominal pains](#)  
[diarrhea](#)  
[mouth, irritation of](#)

#### Notes on poisoning:

Ingesting the bulbous bases of this buttercup has caused a few cases

of illness. An acrid taste and burning of the mouth and throat precludes ingesting large quantities. Other symptoms may include diarrhea and abdominal pain (Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Swine**

**General symptoms of poisoning:**

[blindness](#)

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: bur buttercup](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Bur buttercup (*Ceratocephalus testiculatus*) is an introduced herb that so far is known only from around Kamloops, British Columbia. This plant is found in several western states bordering Canada, where it is rapidly spreading. The plant has also been found on South Bass Island in Ohio on Lake Erie. This plant contains ranunculin, as do some species of the genus *Ranunculus* (buttercup). This chemical changes into a toxic chemical when the plant is crushed. Sheep have been poisoned and have died in the western United States after ingesting aboveground plant material; this plant is considered highly toxic. About 500 g of green plant can kill a 45-kg sheep. This plant grows in dry sandy areas, such as sage slopes and in livestock pens, and has recently been found as a weed in grain and alfalfa fields (Olsen et al. 1983, Cusick 1989).

### References:

Cusick, A. W. 1989. Bur buttercup (*Ceratocephalus testiculatus*: Ranunculaceae): a poisonous plant newly established in Ohio. Mich. Bot., 28: 33-35.

Olsen, J. D., Anderson, T. E., Murphy, J. C., Madsen, G. 1983. Bur buttercup poisoning of sheep. J. Am. Vet. Med. Assoc., 183: 538-543.

### Nomenclature:

Scientific Name: *Ceratocephalus testiculatus* (Crantz) Roth

Vernacular name(s): bur buttercup

Scientific family name: *Ranunculaceae*

Vernacular family name: crowfoot

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques

des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

bur buttercup:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

plant juices

### **References:**

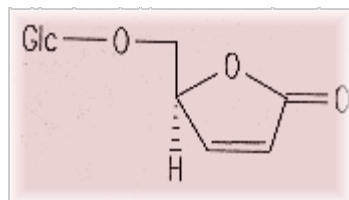
Cusick, A. W. 1989. Bur buttercup (*Ceratocephalus testiculatus*: Ranunculaceae): a poisonous plant newly established in Ohio. Mich. Bot., 28: 33-35.

### **Notes on Toxic plant chemicals:**

Crushing the plant releases an enzyme that changes ranunculin, a glycoside, to protoanemonin, a highly irritant, yellow, volatile oil. This chemical is unstable and changes to nontoxic anemonin or volatilizes upon drying, leaving nontoxic plant material. The median LD-50 was 10.9 g/kg for sheep fed aboveground plant parts in the flower to early-seed stage. A sheep fed 7 g/kg of body weight might develop transient anorectic effects. Intake of 13.9 g/kg or greater would usually be lethal (Olsen et al. 1983).

### **Toxic plant chemicals:**

ranunculin



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Olsen, J. D., Anderson, T. E., Murphy, J. C., Madsen, G. 1983. Bur buttercup poisoning of sheep. *J. Am. Vet. Med. Assoc.*, 183: 538-543.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Sheep

#### General symptoms of poisoning:

[anorexia](#)

[breathing, labored](#)

[death](#)

[diarrhea](#)

[dyspnea](#)

[recumbency](#)

[weakness](#)

#### Notes on poisoning:

In Utah 150 of 800 sheep that ingested bur buttercup died. Symptoms took less than 24 h and included watery diarrhea, recumbency, weakness, and death. Experimental feeding showed more complete signs, such as tachycardia, dyspnea, anorexia, and occasional fever. Post-mortem findings revealed edema of the peritoneal surface to the ruminoreticulum, subendocardial hemorrhages in the left ventricle, and congestion of the heart, kidneys, liver and lungs. Severity was directly related to the dosage. Death results apparently as a failure of the cardiovascular system, with massive fluid shifts (Olsen et al. 1983).

### References:

Olsen, J. D., Anderson, T. E., Murphy, J. C., Madsen, G. 1983. Bur buttercup poisoning of sheep. *J. Am. Vet. Med. Assoc.*, 183: 538-543.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Burke's lupine](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Burkes's lupine (*Lupinus burkei*) is a native herb found in southern British Columbia. Chemical analysis of aboveground plant material has shown that this species can occasionally contain enough of the chemical anagryne to cause teratogenic effects in calves if the plant is ingested maternally between day 40 and day 70 of gestation. The literature does not include cases of poisoning or teratogenic problems caused by this plant. See additional notes under silky lupine ([Lupinus sericeus](#)).

### References:

Davis, A. M., Stout, D. M. 1986. Anagryne in western American lupines. J. Range Manage., 39: 29-30.

### Nomenclature:

Scientific Name: *Lupinus burkei* S. Wats.

Vernacular name(s): Burke's lupine

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lupinus burkei](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Burke's lupine:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Davis, A. M., Stout, D. M. 1986. Anagryne in western American lupines. J. Range Manage., 39: 29-30.

### **Notes on Toxic plant chemicals:**

Burke's lupine contains anagryne, which has been measured in amounts exceeding the minimum (1.44 g/kg) required to cause teratogenic effects in calves (Davis and Stout 1986). See additional notes under silky lupine ([Lupinus sericeus](#)).

### **Toxic plant chemicals:**

anagryne

### **References:**

Davis, A. M., Stout, D. M. 1986. Anagryne in western American lupines. J. Range Manage., 39: 29-30.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Cattle

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: burningbush](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Burningbush (*Euonymus atropurpureus*) is an ornamental shrub that grows across southern Canada. Several reviews have noted that this plant is poisonous, but documented cases appear to refer to the closely related European spindle tree (*Euonymus europaeus*). See additional information under general notes on the European spindle tree. Children who ingest the seeds should be attended to. Children and horses have been poisoned by ingesting the European spindle tree. Symptoms of poisoning of children and horses are discussed under that plant as well.

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Euonymus atropurpureus* Jacq.

Vernacular name(s): burningbush

Scientific family name: *Celastraceae*

Vernacular family name: stafftree

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Euonymus atropurpureus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

burningbush:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bark  
leaves  
seeds

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Toxic plant chemicals:**

evomonoside

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Horses**

### **Humans**

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## [Notes on poisoning: caladium](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Caladium (*Caladium bicolor*) is a houseplant that can cause burning and irritation of the lips. The plant can be a problem to children who ingest the leaves as well as to family pets that might nibble on the foliage.

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Caladium bicolor* (Ait.) Vent.

Vernacular name(s): caladium

Scientific family name: *Araceae*

Vernacular family name: arum

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Caladium bicolor](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci.

(Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

caladium:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of this plant contain oxalate crystals, which can cause intense irritation if ingested (Lampe and McCann 1985).

### **Toxic parts:**

leaves  
roots  
stems

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Notes on Toxic plant chemicals:**

Oxalate crystals are common to many members of the family Araceae and are capable of causing intense irritation.

### **Toxic plant chemicals:**

oxalate

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous



and injurious plants. American Medical Assoc. Chicago, Ill., USA.  
432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### **Cats**

#### **Dogs**

#### **Humans**

### **General symptoms of poisoning:**

[mouth, irritation of](#)

### **Notes on poisoning:**

Ingesting material containing calcium oxalate raphide crystals causes irritation of the soft mouth parts and perhaps the throat of humans and animals. Swelling of tissues causes pain and a burning sensation that slowly subsides. Cool liquids or analgesics may be indicated. The insoluble oxalates do not cause systemic poisoning (Lampe and McCann 1985).

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: California bluebell](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

California bluebell (*Phacelia campanularia*) has been found near Fort Saskatchewan, Alta., where it was probably introduced. This plant causes dermatitis that is similar to poison-ivy dermatitis. The plants in Alberta have caused at least one case of dermatitis (Hardwick, personal communication). If these plants expand their range, more people may develop dermatitis (Munz 1965, Mitchell and Rook 1979).

### References:

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

Munz, P. A. 1965. Dermatitis produced by phacelia (Hydrophyllaceae). Science (Wash. D. C.), 76: 194.

### Nomenclature:

Scientific Name: *Phacelia campanularia* A. Gray

Vernacular name(s): California bluebell

Scientific family name: *Hydrophyllaceae*

Vernacular family name: waterleaf

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Phacelia campanularia](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

California bluebell:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The viscid glandular hairs on the plants stain the skin brown, and the sap causes dermatitis (Munz 1965).

### **Toxic parts:**

hairs

### **References:**

Munz, P. A. 1965. Dermatitis produced by phacelia (Hydrophyllaceae). Science (Wash. D. C.), 76: 194.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Munz, P. A. 1965. Dermatitis produced by phacelia (Hydrophyllaceae). Science (Wash. D. C.), 76: 194.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[blistering](#)  
[erythema](#)  
[itchiness](#)

### **References:**

Munz, P. A. 1965. Dermatitis produced by phacelia (Hydrophyllaceae). Science (Wash. D. C.), 76: 194.

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Date modified: 2009-09-01 [Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: California rose-bay](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

California rose-bay (*Rhododendron macrophyllum*) is a native shrub found in southwestern British Columbia. This plant has poisoned goats and sheep. Azaleas are now considered part of the genus *Rhododendron*. Animals and humans have been poisoned after ingesting the foliage, nectar, or honey made from these plants. Klein-Schwartz and Litovitz (1985) found that humans who ingested plant parts of *Rhododendron* plants exhibited few symptoms of poisoning. Of 152 cases, only nine developed any symptoms and only one resulted in vomiting and transient hypertension. The authors concluded that ingesting moderate amounts of azalea material posed little danger to humans. Azaleas are often used as houseplants. Children and family pets should be prevented from ingesting these plants. Livestock have been poisoned by ingesting foliage of azaleas and rhododendrons. Sheep are most commonly affected in North America. Death has occurred in some cases (Casteel and Wagstaff 1989). Poisoning usually occurs when animals gain access to clippings or when little other forage is available, as in the winter. Rhododendrons retain their leaves over the winter. Goats and cattle have been poisoned as well. Andromedotoxins (grayanotoxins) are the toxins involved.

### References:

Casteel, S., Wagstaff, J. 1989. *Rhododendron macrophyllum* poisoning in a group of goats and sheep. *Vet. Hum. Toxicol.*, 31: 176-177.

Klein-Schwartz, W., Litovitz, T. 1985. Azalea toxicity: an overrated problem?. *Clin. Toxicol.*, 23: 91-101.

### Nomenclature:

Scientific Name: *Rhododendron macrophyllum* D. Don ex G. Don

Vernacular name(s): California rose-bay

Scientific family name: *Ericaceae*

Vernacular family name: heath

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rhododendron macrophyllum](#)

## References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

## Geographic Information

British Columbia

## References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## Image or illustration

California rose-bay:

Images: [images.google.com](http://images.google.com)

## Notes on Poisonous plant parts:

The leaves and stems of this plant have caused poisoning (Casteel and Wagstaff 1989).

## Toxic parts:

leaves  
stems

## References:

Casteel, S., Wagstaff, J. 1989. *Rhododendron macrophyllum*

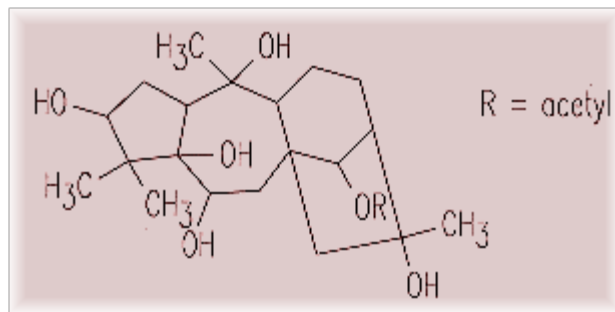
poisoning in a group of goats and sheep. *Vet. Hum. Toxicol.*, 31: 176-177.

### Notes on Toxic plant chemicals:

Andromedotoxins (including grayanotoxin I) are toxic diterpenoids that are present in all the poisonous members of Ericaceae, the heath family (Cooper and Johnson 1984).

### Toxic plant chemicals:

andromedotoxins



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Cooper, M. R., Johnson, A. W. 1984. *Poisonous plants in Britain and their effects on animals and man*. Her Majesty's Stationery Office, London, England. 305 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Goats

#### General symptoms of poisoning:

[ataxia](#)

[colic](#)

[convulsions](#)

[death](#)

[opisthotonos](#)

[recumbency, lateral](#)

[vomiting](#)

[weakness](#)

#### Notes on poisoning:

In one case, several young and adult goats gained access to clippings of California rose-bay; most were poisoned, and some young goats died. Symptoms included initial lateral recumbency and a tonic-clonic convulsive episode starting 6 h after ingestion.

Vomiting, ataxia, and weakness occurred. Vomiting continued over 2 days. Intense colic was observed. Lactating goats dried up. Some animals remained recumbent for a couple of days (Casteel and Wagstaff 1989).

### **References:**

Casteel, S., Wagstaff, J. 1989. *Rhododendron macrophyllum* poisoning in a group of goats and sheep. Vet. Hum. Toxicol., 31: 176-177.

### **Humans**

#### **General symptoms of poisoning:**

[mouth, irritation of](#)  
[vomiting](#)

#### **Notes on poisoning:**

Klein-Schwartz and Litovitz (1985) found that only minimal symptoms were exhibited, such as vomiting, after ingesting species of the genus *Rhododendron*. Lampe and McCann (1985) note that ingesting significant quantities of leaves can cause more severe symptoms such as burning of the mouth, salivation, vomiting, diarrhea, headache, and dimness of vision. Such occurrences are unlikely because of the bitterness of the leaves. Reports occur regarding the toxicity of honey made from azaleas and rhododendrons. This honey is bitter and is unlikely to be ingested in large quantities.

### **References:**

Klein-Schwartz, W., Litovitz, T. 1985. Azalea toxicity: an overrated problem?. Clin. Toxicol., 23: 91-101.

### **Sheep**

#### **General symptoms of poisoning:**

[ataxia](#)  
[colic](#)  
[depression](#)  
[recumbency](#)  
[vomiting](#)  
[weakness](#)

#### **Notes on poisoning:**

Ingesting clippings of California rose-bay caused illness in sheep. Symptoms included severe vomiting, ataxia, and weakness. Vomiting continued over a few days. The animals walked a short distance and then fell down. Some animals remained recumbent for many hours. Colic was observed (Casteel and Wagstaff 1989).



## References:

Casteel, S., Wagstaff, J. 1989. *Rhododendron macrophyllum* poisoning in a group of goats and sheep. Vet. Hum. Toxicol., 31: 176-177.

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| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: Canada nettle](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Canada nettle (*Laportea canadensis*) is found in moist woods and along streams. This plant has stinging hairs on the leaves and stem that readily penetrate thin-skinned areas on humans. The tips of the hairs break off, allowing the contained liquid to penetrate the body. Intense localized itching results. Applying water to the surface of the affected area can increase the sensation; this problem may persist for several weeks. In Australia, other members of the genus *Laportea* have caused severe reactions in humans, and a death was reported in New Guinea after severe exposure. Livestock have responded frantically to contact with these plants in Australia. Canada nettle can cause reactions in animals upon exposure in Canada. Avoid this plant if possible (MacFarlane 1963, Mitchell and Rook 1979).

### References:

MacFarlane, W. V. 1963. The stinging properties of *Laportea*. Econ. Bot., 17: 303-311.

### Nomenclature:

Scientific Name: *Laportea canadensis* (L.) Gaud.

Vernacular name(s): Canada nettle

Scientific family name: *Urticaceae*

Vernacular family name: nettle

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Laportea canadensis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Canada nettle:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Canada nettle is covered with stinging hairs on the leaves and stem. The tips of the hairs are readily fractured on contact with skin, allowing the internal liquid to be injected into the local body area. The hairs are sharply pointed, allowing ready penetration of thinner skinned portions of the body (MacFarlane 1963).

### **Toxic parts:**

hairs

### **References:**

MacFarlane, W. V. 1963. The stinging properties of *Laportea*. Econ. Bot., 17: 303-311.

### **Notes on Toxic plant chemicals:**

The active ingredient in the stinging hairs is not known. The chemicals acetylcholine, histamine, and 5-hydroxytryptamine, which cause the stinging of hairs from the closely related American stinging nettle (*Urtica dioica*), are not the primary toxic chemicals in Canada nettle. Some studies on native Australian *Laportea* species have shown that no detectable loss of activity occurs after 46 years in a dry state. Immersion in boiling water for 10 min does not deactivate the chemical. In fact, the pain is intensified in humans if the affected area is exposed to water, a reaction that may last for many weeks (MacFarlane 1963).

### **Toxic plant chemicals:**

unknown chemical

### **References:**

MacFarlane, W. V. 1963. The stinging properties of *Laportea*. Econ. Bot., 17: 303-311.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[erythema](#)

[itchiness](#)

[pain](#)

[skin, flushed](#)

### **Notes on poisoning:**

Canada nettle hairs induce localized pain and discomfort as well as erythema, reddening, and localized sweating. The pain may persist for weeks. Canada nettle differs from American stinging nettle (*Urtica dioica*) in that the intense pain can persist for weeks or months (MacFarlane 1963, Mitchell and Rook 1979).

### **References:**

MacFarlane, W. V. 1963. The stinging properties of *Laportea*. Econ. Bot., 17: 303-311.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Canada yew](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Canada yew (*Taxus canadensis*) is a native shrub that grows in the moist rich woodlands of eastern Canada. It has also been planted in various parts of the country as an ornamental. In one case in British Columbia, several cattle became ill and some died after ingesting the leaves and twigs of a Canada yew that had been planted for ornamental purposes (Bruce 1927).

### References:

Bruce, E. A. 1927. *Astragalus campestris* and other stock poisoning plants of British Columbia. Agric. Can. Publ., 88. 44 pp.

Thomson, G. W., Barker, I. K. 1978. Japanese yew (*Taxus cuspidata*) poisoning in cattle. Can. Vet. J., 19: 320-321.

### Nomenclature:

Scientific Name: *Taxus canadensis* Marsh.

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

## Geographic Information

British Columbia  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

## References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## Image or illustration

Canada yew:

Images: [images.google.com](http://images.google.com)

## Notes on Poisonous plant parts:

Leaves, twigs, and seeds are poisonous. Only the red arils, the fleshy outer parts of the fruits, are considered nontoxic (Bruce 1927; Lampe and McCann 1985).

## Toxic parts:

leaves  
seeds  
twigs

## References:

Bruce, E. A. 1927. *Astragalus campestris* and other stock poisoning plants of British Columbia. Agric. Can. Publ., 88. 44 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

## Notes on Toxic plant chemicals:

Taxine (taxin), is a complex mixture of alkloids that is rapidly absorbed from the digestive tract and interferes with heart action (Lampe and McCann 1985, Feldman et al. 1987).

## Toxic plant chemicals:

taxine

## References:

Feldman, R., Szajewski, J. M., Chrobak, J., Liberek, Z. M. 1987. Four cases of self-poisoning with yew leaves decoction. *Vet. Hum. Toxicol.*, 29: 72.

Lampe, K. F., McCann, M. A. 1985. *AMA Handbook of poisonous and injurious plants*. American Medical Assoc. Chicago, Ill., USA. 432 pp.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Cattle

### General symptoms of poisoning:

[death](#)  
[lungs, congestion of](#)

### Notes on poisoning:

Leaves, twigs, and seeds are poisonous. Only the red arils, the fleshy outer parts of the fruits, are considered nontoxic (Bruce 1927; Lampe and McCann 1985).

## References:

Bruce, E. A. 1927. *Astragalus campestris* and other stock poisoning plants of British Columbia. *Agric. Can. Publ.*, 88. 44 pp.

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|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: Canadian milk-vetch](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Cattle have been fatally poisoned when fed on rangeland containing Canadian milk-vetch (*Astragalus canadensis*). Experiments with sheep indicated that plant material must contain NO<sub>2</sub> at 250 mg/kg of body weight to produce toxic responses and 275 mg/kg body weight for a lethal dose. In week-old chicks, the LD-50 = 2 g of plant ingested (Williams and James 1975).

### References:

Williams, C., James, L. F. 1975. Toxicity of nitro-containing *Astragalus* to sheep and chicks. *J. Range Manage.*, 28: 260-263.

### Nomenclature:

Scientific Name: *Astragalus canadensis* L.

Vernacular name(s): Canadian milk-vetch

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Astragalus canadensis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.



Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Northwest Territories  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Canadian milk-vetch:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

flowers  
leaves

### **References:**

Williams, C., James, L. F. 1975. Toxicity of nitro-containing *Astragalus* to sheep and chicks. J. Range Manage., 28: 260-263.

### **Toxic plant chemicals:**

3-nitropropionic acid

### **References:**

Williams, C., James, L. F. 1975. Toxicity of nitro-containing *Astragalus* to sheep and chicks. J. Range Manage., 28: 260-263.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

**General symptoms of poisoning:**

[death](#)

**References:**

Williams, C., James, L. F. 1975. Toxicity of nitro-containing *Astragalus* to sheep and chicks. J. Range Manage., 28: 260-263.

**Sheep**

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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: candalabra aloe](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Aloe (*Aloe* spp.) extracts are used in many cosmetic and medicinal compounds. Unfortunately, some humans develop allergic contact dermatitis from this plant. Ingesting the plant latex can cause a cathartic action. Excessive doses may cause nephritis (Shoji 1982 Lampe and McCann 1985).

### References:

Shoji, A. 1982. Contact dermatitis to *Aloe arborescens*. Contact Dermatitis, 8: 164-167.

### Nomenclature:

Scientific Name: *Aloe arborescens* Mill.

Vernacular name(s): candalabra aloe

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Aloe arborescens](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

candalabra aloe:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

plant juices

### **References:**

Nakamura, T., Kotajima, S. 1984. Contact dermatitis from *Aloe arborescens*. Contact Dermatitis, 11: 51.

Shoji, A. 1982. Contact dermatitis to *Aloe arborescens*. Contact Dermatitis, 8: 164-167.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[eczema](#)

[erythema](#)

### **References:**

Shoji, A. 1982. Contact dermatitis to *Aloe arborescens*. Contact Dermatitis, 8: 164-167.

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| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: candelabra-cactus](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Candelabra-cactus (*Euphorbia lactea*) is an indoor ornamental plant. The latex (juice) of the plant contains an intense irritant that causes problems when the latex comes in contact with mucous membranes and eyes. Severe eye problems have also been experimentally produced in dogs. Ingestion should be avoided by children and family pets.

### References:

Crowder, J. I., Sexton, R. R. 1964. Keratoconjunctivitis resulting from the sap of candelabra cactus and the pencil tree. Arch. Ophthalmol., 72: 476-484.

### Nomenclature:

Scientific Name: *Euphorbia lactea* Haw.

Vernacular name(s): candelabra-cactus

Scientific family name: *Euphorbiaceae*

Vernacular family name: spurge

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Euphorbia lactea](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

candelabra-cactus:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

latex

### **References:**

Crowder, J. I., Sexton, R. R. 1964. Keratoconjunctivitis resulting from the sap of candelabra cactus and the pencil tree. Arch. Ophthalmol., 72: 476-484.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[keratoconjunctivitis](#)

### **Notes on poisoning:**

The milky sap of candelabra-cactus contains an irritant that can cause intense burning and keratoconjunctivitis if a drop gets into the eyes. In one case, a man felt intense pain in his eye followed by mild conjunctival hyperemia and punctate staining of the cornea. Within 24 h the patient had copious mucous discharge, marked conjunctival edema, swollen lids, and severe pain in the eye. A few days later the eye began to heal, with complete recovery after a couple of weeks. Experiments on dogs resulted in similar symptoms,

with eventual clearing of the eyes (Crowder and Sexton 1964).

**References:**

Crowder, J. I., Sexton, R. R. 1964. Keratoconjunctivitis resulting from the sap of candelabra cactus and the pencil tree. Arch. Ophthalmol., 72: 476-484.

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[Important Notices](#)





| Français                                   | Contact us | Help  | Search                   | Canada site |
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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: caper spurge](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Caper spurge (*Euphorbia lathyris*) is an outdoor ornamental that has become naturalized in British Columbia. This plant contains an irritant toxin in the latex. Humans have been poisoned after ingesting the seed capsules, which resemble capers, a different plant. Goats apparently eat this plant without experiencing great problems, but the toxin can accumulate and can be passed through the milk (Fuller and McClintock 1986).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### Nomenclature:

Scientific Name: *Euphorbia lathyris* L.

Vernacular name(s): caper spurge

Scientific family name: *Euphorbiaceae*

Vernacular family name: spurge

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Euphorbia lathyris](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

caper spurge:

Images: [images.google.com](http://images.google.com)

### **Toxic parts:**

latex

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Notes on Toxic plant chemicals:**

Caper spurge contains unidentified ingenol derivatives that are toxic diterpenes. The activity of the toxins are not affected by drying or storage (Frohne and Pfander 1983, Cooper and Johnson 1984).

### **Toxic plant chemicals:**

5-deoxyingenol

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### **Goats**

#### **Humans**

#### **General symptoms of poisoning:**

[abdominal pains](#)

[diarrhea](#)

[vomiting](#)

#### **Notes on poisoning:**

Caper spurge has seed capsules that resemble true capers. In Europe, adults were poisoned when they mistakenly ingested caper spurge. They experienced intense burning of the mouth and stomach, abdominal pains, diarrhea, and eventual recovery. The latex is corrosive and causes skin irritation (Cooper and Johnson 1984, Fuller and McClintock 1986).

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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## [Notes on poisoning: cardinalflower](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



### **General poisoning notes:**

Cardinalflower (*Lobelia cardinalis*) is a native herb that grows along riverbanks and is occasionally found in garden flower beds as a perennial. This plant contains lobeline, which caused poisoning when misused as a home medicine. See the notes under Indian-tobacco ([Lobelia inflata](#)) for more information.

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Nomenclature:**

Scientific Name: *Lobelia cardinalis* L.

Vernacular name(s): cardinalflower

Scientific family name: *Campanulaceae*

Vernacular family name: bellflower

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lobelia cardinalis](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

New Brunswick  
Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

cardinalflower:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Toxic plant chemicals:**

lobeline

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: castor-bean](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Castor bean (*Ricinus communis*) is an ornamental herbaceous shrub that is occasionally planted indoors or outdoors as a rapidly growing annual ornamental. The seeds (and to a much lesser extent the leaves) contain ricin, a protein, which is highly toxic in small quantities. Humans as well as cattle, dogs, goats, horses, poultry, rabbits, sheep, and swine have been poisoned after ingesting the seeds. The seed coat must be damaged to allow water to penetrate the seed interior, thus releasing the water-soluble toxin ricin. Most reported cases of animal poisoning have occurred overseas where the seed is used as food and, if improperly treated, has caused illness and death. Humans who ingested the seeds became ill and died. The toxin has been used for of suicide and assassination. Two to four chewed seeds can cause death in children (Cooper and Johnson 1984, Griffiths et al. 1987).

### **DO NOT ALLOW THESE PLANTS TO SET SEEDS!!**

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Griffiths, G. D., Leek, M. D., Gee, D. J. 1987. The toxic plant proteins ricin and abrin induce apoptotic changes in mammalian lymphoid tissues and intestine. *J. Pathol.*, 151: 221-229.

Griffiths, G., Leith, A., Green, M. 1987. Proteins that play Jekyll and Hyde. *New Sci.*, 115: 59-61.

Hoy, D. L., Catling, P. M. 1981. Necklaces from nature - seed jewelry. *Davidsonia*, 12: 63-77.

Malizia, E., Sarcinelli, L., Andreucci, G. 1977. Ricinus poisoning: a familiar epidemy. *Acta Pharm. Toxicol.*, 41: 351-361.

### Nomenclature:

Scientific Name: *Ricinus communis* L.

Vernacular name(s): castor-bean

Scientific family name: *Euphorbiaceae*

Vernacular family name: spurge

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Ricinus communis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Plant or plant parts used in or around the home.

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

castor-bean:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

The ricin content is highest in the seeds, although a small fraction of the toxin is contained in the leaves. Swallowing a seed without chewing prevents the release of the toxin because of the hard seed coat. However, chewing the seed allows release of the water-soluble chemical, and poisoning can occur (Cooper and Johnson



1984).

**Toxic parts:**

seeds

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Hoy, D. L., Catling, P. M. 1981. Necklaces from nature - seed jewelry. *Davidsonia*, 12: 63-77.

**Notes on Toxic plant chemicals:**

Ricin, a simple protein (a toxalbumin), is one of the most potent naturally occurring substances. Ricin is soluble in water and is therefore not present in extracted oil. Another protein, called ricinus agglutinin (or ricin), causes hemagglutinating activity, coagulation of the red blood cells. Toxicity from this protein disappears after heat treatment, usually as steam. After the oil is extracted, the remaining pomace is used in some countries as animal feed, if properly treated with heat and water. There is wide variation in sensitivity to the toxin in different species. A lethal dose by injection may be as small as two-millionths of body weight.

Experimental oral lethal doses are as follows:

|   |           |
|---|-----------|
| horses                                  | 0.1 g/ kg |
| cattle, foals, rabbits,<br>sheep, swine | 1-2 g/kg  |
| goats                                   | 5.5 g/kg  |

Because ricin is a protein, antibodies can be produced by immunization, which allows animals to withstand up to 800 times a normal lethal dose. Ricin has been used by secret intelligence services as an assassination weapon. In one case, the Bulgarian secret police used a 1.53 mm metal pellet containing a reservoir for a few hundred millionths of a gram of ricin to kill a Bulgarian broadcaster. The pellet was injected by use of an umbrella, and the man died within 4 days (Cooper and Johnson 1984, Griffiths et al. 1987).

**Toxic plant chemicals:**

ricin

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Griffiths, G., Leith, A., Green, M. 1987. Proteins that play Jekyll and Hyde. *New Sci.*, 115: 59-61.

Stirpe, F., Barbieri, L. 1986. Ribosome-inactivating proteins up to date. *FEBS (Fed. Eur. Biochem. Soc.) Lett.*, 195: 1-8.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[abortion](#)

[breathing, shallow](#)

[death](#)

[diarrhea](#)

[weakness](#)

#### **Notes on poisoning:**

Cattle have been poisoned overseas after ingesting improperly treated castor bean products such as cattle cakes. Symptoms include severe diarrhea with blood and mucous in the feces, abortions, a drastic reduction in milk yield, and death of newborn calves. Weakness, feeble pulse, shortness of breath, and swollen joints have also occurred. Temperature was subnormal, with the pulse fast and weak. The lethal dose was estimated at 250 g of husks. Postmortem findings showed hemorrhaging in the heart, degeneration of the kidneys and liver, and intense inflammation and erosion of the intestinal membranes. Symptoms are similar for other types of animals (Cooper and Johnson 1984).

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Chickens**

#### **General symptoms of poisoning:**

[death](#)

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery

Office, London, England. 305 pp.

## Horses

### General symptoms of poisoning:

[abdominal pains](#)  
[sweating](#)  
[temperature, elevated](#)

### Notes on poisoning:

The accidental addition of castor beans into grain given to horses caused sweating, a rocking gait, rapid pulse, muscle spasms, elevated temperature, and abdominal pains. The early symptoms may be confused with respiratory infection (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## Humans

### General symptoms of poisoning:

[abdominal pains](#)  
[death](#)  
[diarrhea](#)  
[fever](#)  
[nausea](#)  
[vomiting](#)

### Notes on poisoning:

Two to four chewed seeds may be enough to cause death in children. Symptoms of poisoning include abdominal pains, diarrhea, vomiting, nausea, drowsiness, dehydration, incoordination, and hematuria. In cases of acute toxicity, symptoms appear after several hours to a few days, although they can occur quickly. Griffiths et al. (1987) found that ricin causes apoptotic changes: cytoplasmic shrinkage, nuclear condensation, and breakdown of cells into membrane-bound fragments. Large-scale disruption in lymphoid tissues occurs. Death has been accidental or purposeful (Malizia et al. 1977, Griffiths et al. 1987). Castor bean contains an unknown potent respiratory allergen. Repeated exposure increases sensitivity (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Griffiths, G. D., Leek, M. D., Gee, D. J. 1987. The toxic plant proteins ricin and abrin induce apoptotic changes in mammalian lymphoid tissues and intestine. *J. Pathol.*, 151: 221-229.

Griffiths, G., Leith, A., Green, M. 1987. Proteins that play Jekyll and Hyde. *New Sci.*, 115: 59-61.

Hoy, D. L., Catling, P. M. 1981. Necklaces from nature - seed jewelry. *Davidsonia*, 12: 63-77.

Malizia, E., Sarcinelli, L., Andreucci, G. 1977. Ricinus poisoning: a familiar epidemy. *Acta Pharm. Toxicol.*, 41: 351-361.

## **Poultry**

### **General symptoms of poisoning:**

[diarrhea](#)  
[feathers, ruffled](#)

### **Notes on poisoning:**

In one case of accidental poisoning, poultry deteriorated rapidly, showing ruffled feathers, drooping wings, and grayish combs and wattles. Their crops were impacted for days, egg laying ceased, and molting started. Several birds died (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Sheep**

## **Swine**

### **General symptoms of poisoning:**

[convulsions](#)  
[death](#)  
[incoordination](#)  
[vomiting](#)  
[weakness](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: celery-leaved buttercup](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Celery-leaved buttercup (*Ranunculus sceleratus*) is a native herb found across most of Canada. This plant contains a toxic irritant that produces protoanemonin upon mastication. All types of livestock can become ill upon ingestion, but cattle are most commonly affected. Horses and goats have also been poisoned (Cooper and Johnson 1984, Fuller and McClintock 1986).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### Nomenclature:

Scientific Name: *Ranunculus sceleratus* L.

Vernacular name(s): celery-leaved buttercup

Scientific family name: *Ranunculaceae*

Vernacular family name: crowfoot

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Ranunculus sceleratus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
Newfoundland  
Northwest Territories  
Ontario  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

celery-leaved buttercup:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The plant juices contain the glycoside, which is converted to the irritant protoanemonin. The concentration is highest during flowering (Cooper and Johnson 1984).

### **Toxic parts:**

plant juices

### **References:**

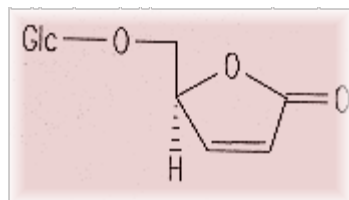
Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Notes on Toxic plant chemicals:**

Ranunculin, a glycoside, becomes a volatile irritant, protoanemonin, after enzyme-mediated conversion through mastication (Cooper and Johnson 1984).

### Toxic plant chemicals:

ranunculin



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

#### General symptoms of poisoning:

[abdominal pains](#)  
[blindness](#)  
[constipation](#)  
[diarrhea](#)  
[gait, unsteady](#)  
[mouth, irritation of](#)  
[salivation](#)

#### Notes on poisoning:

Ingesting the celery-leaved buttercup causes salivation, abdominal pain, and inflammation of the mouth. In more serious cases, severe ulceration of the mouth and of the digestive and urinary systems occurs. The animal excretes dark-colored diarrhea and urine. Unsteady gait occurs in the hind legs, and vision can be impaired or lost. Convulsion precedes death, although fatalities are rare. Animals should not be allowed to graze pastures for at least 2 weeks after spraying with 2,4-D because the plants may be grazed selectively by animals (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain



and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

## **Goats**

### **General symptoms of poisoning:**

[abdominal pains](#)

[death](#)

[mouth, irritation of](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Horses**

### **General symptoms of poisoning:**

[blindness, temporary](#)

[colic](#)

[convulsions](#)

[muscle spasms](#)

[paralysis](#)

### **Notes on poisoning:**

A horse was poisoned after ingesting celery-leaved buttercup. Symptoms included paralysis, muscle tremors, colic, convulsions, and loss of hearing and sight. Recovery occurred over a few days but weakness persisted (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Chinese-lantern](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Chinese-lantern (*Physalis alkekengi*) is an outdoor ornamental grown for its lantern-shaped fruit cover (pericarp). The enclosed immature fruits contain sufficient quantities of solanine to cause gastroenteritis and diarrhea in children. The mature fruits are apparently edible (Lampe and McCann 1985).

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Physalis alkekengi* L.

Vernacular name(s): Chinese-lantern

Scientific family name: *Solanaceae*

Vernacular family name: nightshade

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Physalis alkekengi](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Plant or plant parts used in or around the home.

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

Chinese-lantern:

Images: [images.google.com](http://images.google.com)

### Toxic parts:

immature fruit

### References:

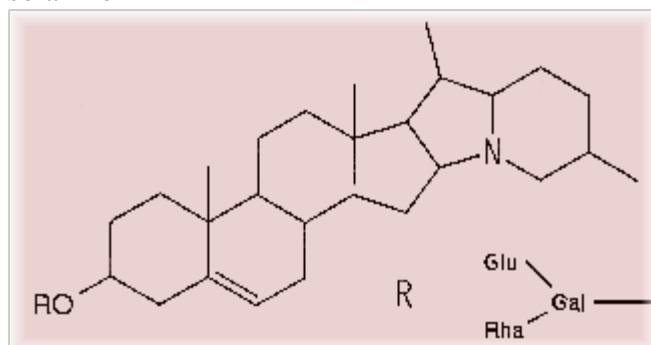
Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Notes on Toxic plant chemicals:

Solanine, a bitter glycoalkaloid, is found in the immature berries. Ripe fruit is apparently edible (Lampe and McCann 1985, Fuller and McClintock 1986).

### Toxic plant chemicals:

solanine



Chemical diagram(s) are courtesy of Ruth McDiarmid,

Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

#### **General symptoms of poisoning:**

[diarrhea](#)

[fever](#)

[gastroenteritis](#)

#### **Notes on poisoning:**

Symptoms include diarrhea, gastroenteritis, fever, and a scratchy feeling at the back of the throat a few hours after ingestion (Lampe and McCann 1985).

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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[Important Notices](#)



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|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: chives](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Horses have been poisoned in Japan by ingesting the leaves of chive (*Allium schoenoprasum*) in early spring. Chives have escaped cultivation and have been naturalized in various parts of Canada, but the plants are not abundant.

### References:

Kobayashi, T. 1950. Studies on the histo-pathologic changes of experimental cases of the "Ezonegi-poisoning" in horses. Jpn. J. Vet. Sci., 12: 209.

### Nomenclature:

Scientific Name: *Allium schoenoprasum* L.

Vernacular name(s): chives

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Allium schoenoprasum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

chives:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Kobayashi, T. 1950. Studies on the histo-pathologic changes of experimental cases of the "Ezonegi-poisoning" in horses. Jpn. J. Vet. Sci., 12: 209.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Horses**

### **General symptoms of poisoning:**

[hemoglobinuria](#)

[icterus](#)

## References:

Kobayashi, T. 1950. Studies on the histo-pathologic changes of experimental cases of the "Ezonegi-poisoning" in horses. Jpn. J. Vet. Sci., 12: 209.

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[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: chrysanthemum](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Chrysanthemum (*Chrysanthemum indicum*) and cultivated hybrids (*C. X morifolium* Ramat.) are perennial ornamentals grown indoors and outdoors. Some humans develop contact dermatitis after extended exposure to garden chrysanthemums. This is an occupational hazard of florists, nursery workers, and gardeners. (Rook and Mitchell 1979, Frohne and Pfander 1983).

### References:

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### Nomenclature:

Scientific Name: *Chrysanthemum indicum* L.

Vernacular name(s): chrysanthemum

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Chrysanthemum indicum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.



Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

chrysanthemum:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Notes on Toxic plant chemicals:**

Arteglasin A is a sesquiterpene lactone of the quaianolide type and is one of the active allergens of garden chrysanthemums. A cross-link can form between this chemical and sulfhydryl groups of body proteins so that complete antigens are produced. Repeated exposure can cause the allergic reaction. Humans who are sensitive to one member of the Compositae family can become sensitive to other members of the plant family, such as yarrow (*Achillea millefolium*) or wild chamomile (*Matricaria chamomilla*) (Mitchell and Rook 1979; Frohne and Pfander 1983).

### **Toxic plant chemicals:**

arteglasin A

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass

Ltd, Vancouver, B.C., Canada. 787 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: climbing nightshade](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Climbing nightshade (*Solanum dulcamara*) is a naturalized woody vine that is found along fencerows, among shrubbery, and at wood edges across most of southern Canada. The plant, especially in its green immature fruits, contains steroidal alkaloids, which have caused poisoning in cattle and sheep. Humans may have been poisoned after ingesting immature berries. Recent experiments show that the mature red berries contain only a small amount of toxin and have little chance of harming children (Alexander et al. 1948, Cooper and Johnson 1984, Hornfeldt and Collins 1989).

### References:

Alexander, R. F., Forbes, G. B., Hawkins, E. S. 1948. A fatal case of solanine poisoning. *Br. Med. J.*, 2: 518.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Hornfeldt, C. S., Collins, J. E. 1989. Determination of the toxicity of nightshade berries, *Solanum dulcamara*. *Vet. Hum. Toxicol.*, 31: 363.

Hornfeldt, C. S., Collins, J. E. 1990. Toxicity of nightshade berries (*Solanum dulcamara*) in mice. *Clin. Toxicol.*, 28: 185-192.

Keeler, R. F., Baker, D. C., Gaffield, W. 1990. Spirosolane-containing *Solanum* species and induction of congenital craniofacial malformations. *Toxicol.*, 28: 873-884.

### Nomenclature:

Scientific Name: *Solanum dulcamara* L.

Vernacular name(s): climbing nightshade

Scientific family name: *Solanaceae*

Vernacular family name: nightshade

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Solanum dulcamara](#)

## References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

## Geographic Information

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

## References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## Image or illustration

climbing nightshade:

Images: [images.google.com](http://images.google.com)

## Notes on Poisonous plant parts:

The immature green berries of climbing nightshade have been shown to be toxic to hamsters and mice. Mature red berries did not

cause symptoms in mice. Doses were administered (8 mg/kg by orogastric needle) and symptoms occurred within 5-24 h when green berries were given. Ripened berries of climbing nightshade do not appear to present a hazard to children (Baker et al. 1989, Hornfeldt and Collins 1989).

**Toxic parts:**

immature fruit  
leaves

**References:**

Baker, D. C., Keeler, R. F., Gaffield, W. 1989. Pathology in hamsters administered *Solanum* plant species that contain steroidal alkaloids. *Toxicol.* 27: 1331-1337.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

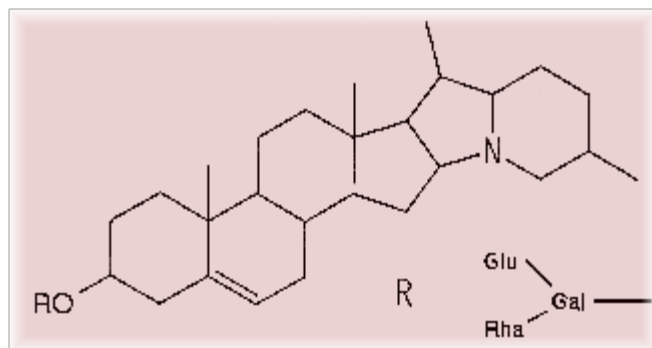
Hornfeldt, C. S., Collins, J. E. 1989. Determination of the toxicity of nightshade berries, *Solanum dulcamara*. *Vet. Hum. Toxicol.*, 31: 363.

**Notes on Toxic plant chemicals:**

Immature green berries of climbing nightshade contain parent steroidal alkaloid aglycones: 50% solasodine and 50% of another aglycone thought to be soladulcidine. The total alkaloid concentration has been found to be 0.030% of dry matter in the green berries. Water gavage of dry green fruit suspension caused some deaths when given at the rate of 1.4-2.0 g per hamster (avg. wt. 190 g) (Baker et al. 1989).

**Toxic plant chemicals:**

soladulcidine  
solanine



solasodine

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

## References:

Baker, D. C., Keeler, R. F., Gaffield, W. 1989. Pathology in hamsters administered *Solanum* plant species that contain steroidal alkaloids. *Toxicon*, 27: 1331-1337.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Cattle

### General symptoms of poisoning:

[incoordination](#)  
[muscle spasms](#)  
[nervousness](#)  
[regurgitation](#)  
[salivation](#)  
[temperature, depressed](#)  
[vomiting](#)

### Notes on poisoning:

Cattle that ingested the plant in Britain exhibited symptoms of nervousness, rapid pulse, incoordination, and edema to the front part of the body. The flesh of a slaughtered animal smelled strongly of the plant (Cooper and Johnson 1984).

## References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## Humans

### General symptoms of poisoning:

[abdominal pains](#)  
[breathing, labored](#)  
[death](#)  
[dyspnea](#)  
[gastroenteritis](#)  
[lethargy](#)  
[thirsty](#)  
[vomiting](#)

### Notes on poisoning:

A child who probably ingested the berries of climbing nightshade died 2 days after exhibiting symptoms of vomiting, weakness, thirst, abdominal pain, dyspnea, and cyanosis. Postmortem examination showed acute inflammation of the mucosa of the stomach and

intestines. An alkaloid (7 mg) characteristic of solanine was found in the liver. The evidence is not conclusive, but the child was eating blackberries in an area full of climbing nightshade berries (Alexander et al. 1948).

### References:

Alexander, R. F., Forbes, G. B., Hawkins, E. S. 1948. A fatal case of solanine poisoning. Br. Med. J., 2: 518.

Hornfeldt, C. S., Collins, J. E. 1990. Toxicity of nightshade berries (*Solanum dulcamara*) in mice. Clin. Toxicol., 28: 185-192.

### Rodents

#### General symptoms of poisoning:

[breathing, labored](#)  
[craniofacial problems](#)  
[death](#)

#### Notes on poisoning:

Tests with mice show that ingesting green (unripe) berries can cause gastroenteritis lesions, labored breathing, and lethargy. Villous atrophy of the small intestine also occurred. The red (ripe) berries did not cause any problems (Hornfeldt and Collins 1990). Tests with unripe berries on pregnant hamsters induced congenital craniofacial malformations in fetuses in 16% of cases. Dosages administered were high, resulting in the death of some dams. Severe gastrointestinal necrosis caused the deaths. Fetuses showed encephalocele with occasional cleft palate and harelip. Another member of the genus (*Solanum sarrachoides* Sendt.; hairy nightshade) also caused a few problems in fetuses, but the numbers were not statistically significant (Keeler et al. 1990).

### References:

Hornfeldt, C. S., Collins, J. E. 1990. Toxicity of nightshade berries (*Solanum dulcamara*) in mice. Clin. Toxicol., 28: 185-192.

Keeler, R. F., Baker, D. C., Gaffield, W. 1990. Spirosolane-containing *Solanum* species and induction of congenital craniofacial malformations. Toxicol., 28: 873-884.

### Sheep

#### General symptoms of poisoning:

[death](#)  
[diarrhea](#)  
[falling down](#)  
[gait, staggering](#)  
[pupil dilation](#)  
[temperature, elevated](#)

### **Notes on poisoning:**

In one case in Britain, sheep ingested climbing nightshade plant material and developed rapid respiration, feeble pulse, elevated temperature, dilated pupils, and green diarrhea, then death. Postmortem findings showed dark, tarry blood, contracted ventricles, and plant material in the stomach (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: cocklebur](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Cocklebur (*Xanthium strumarium*) is a naturalized annual herb found across southern Canada, where it grows in wet soils and agricultural fields. The toxic glycoside carboxyatractyloside is found in the seeds and the cotyledons of seedlings. Livestock are most commonly poisoned after ingesting the cotyledons (seed leaves) of young seedlings. The toxin quickly dissipates as the seedlings grow. Cattle, horses, and swine are often poisoned and die after ingesting this plant. This plant can produce allergic contact dermatitis in susceptible humans (Mitchell and Rook 1979, Weaver and Lechowicz 1983, Burrows and Tyrl 1989).

### References:

Burrows, G. E., Tyrl, R. J. 1989. Plants causing sudden death in livestock. *Clin. Toxicol.*, 5: 263-289.

Cole, R. J., Cutler, H. G., Stuart, B. P. 1989. Carboxyatractyloside. Pages 253-263 in Cheeke, P. R., ed. *Toxicants of plant origin*. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

Martin, T. M., Stair, E. L., Dawson, L. 1986. Cocklebur poisoning in cattle. *J. Am. Vet. Med. Assoc.*, 189: 562-563.

Mitchell, J. C., Rook, A. 1979. *Botanical dermatology*. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

Weaver, S. E., Lechowicz, M. J. 1983. The biology of Canadian weeds. 56. *Xanthium strumarium* L. *Can. J. Plant Sci.*, 63: 211-225.

### Nomenclature:

Scientific Name: *Xanthium strumarium* L.

Vernacular name(s): cocklebur

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Xanthium strumarium](#)

## References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

## Geographic Information

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

## References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## Image or illustration

cocklebur:

Images: [images.google.com](http://images.google.com)

## Notes on Poisonous plant parts:

The toxin is found in the seeds and in the cotyledons (or seed leaves) of the seedlings (Cole et al. 1980).

## Toxic parts:

seedlings  
seeds

### References:

Cole, R. J., Stuart, B. P., Lansden, J. A., Cox, R. H. 1980. Isolation and redefinition of the toxic agent from cocklebur (*Xanthium strumarium*). J. Agric. Food Chem., 28: 1330-1332.

### Notes on Toxic plant chemicals:

A highly toxic glycoside, carboxyatractyloside, is contained in the seeds and seedlings of cocklebur. The amount of the chemical was measured at 0.457% in the seeds and 0.12% in the seedling at the two-leaf stage. The poison occurs only in the cotyledons or seed leaves of the seedlings. The toxin readily disappears after germination (Cole et al. 1980).

### Toxic plant chemicals:

carboxyatractyloside

### References:

Cole, R. J., Cutler, H. G., Stuart, B. P. 1989. Carboxyatractyloside. Pages 253-263 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

Cole, R. J., Stuart, B. P., Lansden, J. A., Cox, R. H. 1980. Isolation and redefinition of the toxic agent from cocklebur (*Xanthium strumarium*). J. Agric. Food Chem., 28: 1330-1332.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

#### General symptoms of poisoning:

[anorexia](#)  
[convulsions](#)  
[death](#)  
[depression](#)  
[dyspnea](#)  
[muscle, weakness of](#)  
[nausea](#)  
[opisthotonos](#)

#### Notes on poisoning:

Poisoning after ingesting cocklebur cotyledons from seedlings has resulted in symptoms including anorexia, depression, nausea, dyspnea, opisthotonos, and spasmodic running motions. Kidney

discoloration and liver discoloration with acute hepatocellular centrilobular necrosis also occurs. Death often occurs, and treatment is symptomatic (Martin et al. 1986).

### **References:**

Martin, T. M., Stair, E. L., Dawson, L. 1986. Cocklebur poisoning in cattle. *J. Am. Vet. Med. Assoc.*, 189: 562-563.

### **Humans**

#### **General symptoms of poisoning:**

[erythema](#)

### **References:**

Mitchell, J. C., Rook, A. 1979. *Botanical dermatology*. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### **Rodents**

#### **General symptoms of poisoning:**

[death](#)

#### **Notes on poisoning:**

Experimental use of carboxyatractyloside (CAT) in mice and rats, had an LD-50 (i.p. or injections into the peritoneal or abdominal cavity) of:

;

10.6 (7.5-15.1) mg/kg for mice 2.9 (1.5-5.8) mg/kg  
for rats

; Postmortem examination revealed prominent hepatic lobular accentuation in rats (Cole et al. 1989).

### **References:**

Cole, R. J., Cutler, H. G., Stuart, B. P. 1989. Carboxyatractyloside. Pages 253-263 in Cheeke, P. R., ed. *Toxicants of plant origin*. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### **Swine**

#### **General symptoms of poisoning:**

[anorexia](#)

[death](#)

[depression](#)

[incoordination](#)

[muscle spasms](#)

[vomiting](#)

### **Notes on poisoning:**

Pigs are poisoned after ingesting cotyledons equal to 1-2% of body weight or 20% of macerated burs containing seeds. Intoxication can occur within a few hours and symptoms include anorexia, depression, weakness, a tucked-up appearance, and spasmodic muscular activity. Postmortem findings reveal extensive serofibrinous effusions of protein- rich fluid in the peritoneal cavity. Scattered pericardial and subcutaneous lesions may also occur. Hepatic necrosis can occur (Burrows and Tyrl 1989).

### **References:**

Burrows, G. E., Tyrl, R. J. 1989. Plants causing sudden death in livestock. Clin. Toxicol., 5: 263-289.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Colorado rubberweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Colorado rubberweed (*Hymenoxys richardsonii*) is a native herb found in the southern prairies. This plant has caused poisoning and death in sheep, goats, and occasionally cattle. Sheep and goats consume this plant when there is little else to eat. Poisoning is therefore most frequent in spring and late autumn, when other forage is reduced. Cattle are poisoned less frequently because they find the plant unpalatable (Cheeke and Schull 1985).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Parker, K. W. 1936. Prevention of death losses in sheep on areas infested with pingue (*Actinea richardsoni*). N. M. Agric. Exp. Stn. Bull., 241. 53 pp.

### Nomenclature:

Scientific Name: *Hymenoxys richardsonii* (Hook.) Cockerell

Vernacular name(s): Colorado rubberweed

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Hymenoxys richardsonii](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Colorado rubberweed:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
leaves  
stems

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Notes on Toxic plant chemicals:**

Hymenovin (hymenoxon) is a sesquiterpene lactone that contains an alpha-methylene-gamma-lactone moiety. This moiety inhibits the enzymatic capability of adenylate cyclase by alkylation of its thiol group. The inhibition can disrupt the cellular transmission of external signals to the internal regulatory proteins. Mercaptans, such as cysteine, may be used in treatment by partly detoxifying the moiety before it can damage cellular enzymes (Elissalde and Ivie 1987). The oral LD-50 of hymenovin (hymenoxon) is 2.9-8.5 g/kg in sheep (Cheeke and Schull 1985).

### **Toxic plant chemicals:**

hymenovin

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Elissalde, M. H., Ivie, G. W. 1987. Inhibition of macrophage adenylate cyclase by the alpha-methylene-gamma-lactone moiety of sesquiterpene lactones from forage plants. Am. J. Vet. Res., 48: 148-152.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### **Cattle**

#### **Goats**

#### **Sheep**

### **General symptoms of poisoning:**

[death](#)  
[kidney, congestion of](#)  
[liver, congestion of](#)  
[lungs, congestion of](#)  
[vomiting](#)

### **Notes on poisoning:**

Symptoms of ingestion include violent vomiting, hence the name spewing sickness. Sheep may have a green stain around the mouth. Vomited material can be inhaled, which can lead to inhalation pneumonia, permanent lung damage, or death. Lesions in the gastrointestinal tract, liver and kidney congestion, and lung damage occur. Frequent coughing and sneezing occur (Parker, Cheeke and Schull 1985).

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Parker, K. W. 1936. Prevention of death losses in sheep on areas infested with pingue (*Actinea richardsoni*). N. M. Agric. Exp. Stn. Bull., 241. 53 pp.



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## [Notes on poisoning: common comfrey](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Common comfrey (*Symphytum officinale*) is an introduced and naturalized herb found on damp roadsides and waste places in many parts of Canada. This plant contains several pyrrolizidine alkaloids, which cause veno-occlusive symptoms, liver cirrhosis, and death. Humans have been affected after ingesting herbal teas and medicines. Rats have developed hepatocellular tumors after ingesting the alkaloid symphytine, found in common comfrey. Canadian health officials have sought to ban sale of some comfrey products. Animals normally do not ingest the plant because of the bristly hairs. Topical herbal preparations are not considered toxic because the alkaloids do not reach the liver (Steuart 1987, Huxtable 1989, Ridker and McDermott 1989). Russian comfrey (*Symphytum X uplandicum* Nym. [synonymy: *Symphytum peregrinum* Ledeb.]) has been grown in Canada in Lethbridge, Alta., and Vancouver Island, as a trial forage crop for livestock, but it was not found to be suitable. This plant may be available from some nursery seed suppliers. Russian comfrey also contains pyrrolizidine alkaloids and should not be taken internally as a herb remedy.

### References:

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

Ridker, P. M., McDermott, W. V. 1989. Comfrey herb tea and hepatic veno-occlusive disease. *Lancet*, 1989: 657-658.

Steuart, G. 1987. Growing alkaloid-free comfrey. *Herbs Spices Med. Plants*, 5(4): 9.

### Nomenclature:

Scientific Name: *Symphytum officinale* L.

Vernacular name(s): common comfrey

Scientific family name: *Boraginaceae*

Vernacular family name: borage

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Symphytum officinale](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Alberta  
British Columbia  
New Brunswick  
Newfoundland  
Ontario  
Quebec

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

common comfrey:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

The roots have greater concentrations of pyrrolizidine alkaloids than the leaves. Animals do not commonly ingest the plants because of the bristly leaves (Cooper and Johnson 1984, Huxtable 1989).

**Toxic parts:**

all parts  
leaves  
roots

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

**Notes on Toxic plant chemicals:**

Common comfrey contains several pyrrolizidine alkaloids, including echimidine, heliosupine, lycopsamine, and symphytine. Alkaloids were found in the plant totalling 0.07% dry weight in roots and 0.062% in dry leaves, and 0.006% in fresh leaves. Two alkaloids found in common comfrey were shown to cause liver and bladder tumors in rats; the roots have more toxins than leaves. Some commercial products of roots and leaves sold as herbal teas and medicinal preparations have a total alkaloidal concentration of 270 mg/kg (leaves) and 2900 mg/kg (roots). Ingesting a cup of tea made from the roots may contain 8.5 mg of alkaloid, which is 26 mg per cup if the gelatinous residue is consumed. [Huxtable 1989].

**Toxic plant chemicals:**

echimidine  
heliosupine  
lycopsamine

**References:**

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Humans**

**General symptoms of poisoning:**

[ascites](#)  
[liver, cirrhosis of](#)

### **Notes on poisoning:**

Ingesting pyrrolizidine alkaloids for several months leads to veno-occlusive problems and severe portal hypertension, which can lead to cirrhosis of the liver and death. Symptoms include ascites, edema, and reduced urinary output. Children are more susceptible than adults. In two cases, one woman was estimated to consume at least 85 mg of pyrrolizidine alkaloids from a herbal leaf preparation over 6 months; another woman consumed 512 mg over 6 months (comfrey-pepsin preparation) (Huxtable 1990). Ridker and McDermott (1989) note that pulmonary endothelial hyperplasia can also occur from direct exposure to these alkaloids. Rats have developed hepatocellular tumors because of the alkaloid symphytine.

### **References:**

Ridker, P. M., McDermott, W. V. 1989. Comfrey herb tea and hepatic veno-occlusive disease. *Lancet*, 1989: 657-658.

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## [Notes on poisoning: common groundsel](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Common groundsel (*Senecio vulgaris*) is a naturalized herb found across much of Canada in fields and waste places. This plant contains pyrrolizidine alkaloids, which cause irreversible liver damage after chronic exposure. Cattle and horses have died after ingesting common groundsel. Humans use this plant in teas and herbal remedies in some parts of the world. Death occurred after some species of the genus *Senecio* were ingested. Humans should not ingest foods that contain any plant material from this genus. In a case of prenatal exposure, a mother ingested tea containing an estimated 0.343 mg of senecionine, resulting in fatal veno-occlusive disease in a newborn infant (Huxtable 1989, Spoerke and Smolinske 1990).

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

Lessard, P., Wilson, W. D., Olander, H. J., Rogers, Q. R., Mendel, V. E. 1986. Clinicopathologic study of horses surviving pyrrolizidine alkaloid (*Senecio vulgaris*) toxicosis. Am. J. Vet. Res., 47: 1776-1780.

Mendel, V. E., Witt, M. R., Gitchell, B. S., Gribble, D. N., Rogers, Q. R., Segall, H. J., Knight, H. D. 1988. Pyrrolizidine alkaloid-induced liver disease in horses: an early diagnosis. Am. J. Vet. Res., 49: 572-578.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Senecio vulgaris* L.

Vernacular name(s): common groundsel

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Senecio vulgaris](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

common groundsel:

**Images:** [images.google.com](http://images.google.com)

**Notes on Poisonous plant parts:**

The highest concentration of pyrrolizidine alkaloids is found in the flowers and the lowest in the roots. The amount of toxin increases in the leaves, reaching a maximum just before flower maturity (Johnson and Molyneux 1986).

**Toxic parts:**

all parts  
flowers  
leaves

**References:**

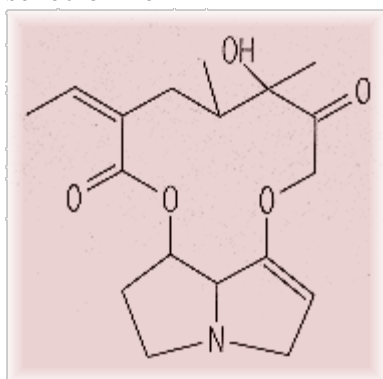
Johnson, A. E., Molyneux, R. J. 1986. The pyrrolizidine alkaloid free base and N-oxide content of toxic range plants. *J. Toxicol. Toxin Rev.*, 5: 256.

**Notes on Toxic plant chemicals:**

Senecionine, a pyrrolizidine alkaloid, is found in common groundsel. A total of less than 1% alkaloids was measured (Johnson and Molyneux 1986, Huxtable 1989).

**Toxic plant chemicals:**

senecionine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. *Toxicants of plant origin. Vol. I. Alkaloids.* CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the



literature (as of 1993) contained no detailed explanation.

## **Cattle**

### **General symptoms of poisoning:**

[blindness](#)

[death](#)

[incoordination](#)

[liver, cirrhosis of](#)

[prostration](#)

### **Notes on poisoning:**

Cattle were poisoned after ingesting common groundsel. In some cases, calves 3-8 months old died, whereas older cows showed no clinical signs. Calves from cows eating contaminated hay during pregnancy died the following autumn. The same effects were obtained experimentally from the offspring of rats fed the toxins during pregnancy. Other symptoms include nervousness, incoordination, pushing against objects, walking in circles, and blindness with glazed eyes (Fuller and McClintock 1986).

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

## **Horses**

### **General symptoms of poisoning:**

[anorexia](#)

[ataxia](#)

[death](#)

[depression](#)

[diarrhea](#)

[hemoglobinuria](#)

[liver, cirrhosis of](#)

### **Notes on poisoning:**

Ingesting common groundsel leads to sickness and death. Early symptoms include anorexia and listlessness. Animal owners do not usually notice problems until liver damage occurs. Experimental tests show that routine measurement of food intake and weekly body weight can alert owners to pyrrolizidine poisoning early enough so that liver damage can be reduced. Measuring the serum bile acid is the best way to predict animal survival. Liver damage was induced in horses after they ingested an average of 233 +/- 9.2 mg of pyrrolizidine alkaloid per kilogram of body weight. Other symptoms include ataxia, head pressing, and stall walking. Megalocytic hepatopathy develops. Liver damage is often severe before obvious clinical signs develop (Lessard et al. 1986, Mendel et al. 1988).

## References:

Lessard, P., Wilson, W. D., Olander, H. J., Rogers, Q. R., Mendel, V. E. 1986. Clinicopathologic study of horses surviving pyrrolizidine alkaloid (*Senecio vulgaris*) toxicosis. Am. J. Vet. Res., 47: 1776-1780.

Mendel, V. E., Witt, M. R., Gitchell, B. S., Gribble, D. N., Rogers, Q. R., Segall, H. J., Knight, H. D. 1988. Pyrrolizidine alkaloid-induced liver disease in horses: an early diagnosis. Am. J. Vet. Res., 49: 572-578.

## Humans

### General symptoms of poisoning:

[liver, cirrhosis of](#)

### Notes on poisoning:

Common groundsel is used in herbal medicine and teas around the world. Humans should not ingest any foods, teas, or remedies that contain any plant material from the genus *Senecio*. Chronic poisoning occurs, resulting in veno-occlusive disease in children and Budd-Chiari syndrome (more commonly) in adults (Huxtable 1989).

## References:

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: common hop](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Hop (*Humulus lupulus*) is cultivated for its use in beer-making. It is also used as an ornamental vine in many areas. Hop pickers can develop dermatitis from working with common hop plants (Raith and Jager 1984, Fuller and McClintock 1986).

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Raith, L., Jager, K. 1984. Hop allergy. Contact Dermatitis, 11: 53.

### Nomenclature:

Scientific Name: *Humulus lupulus* L.

Vernacular name(s): common hop

Scientific family name: *Cannabinaceae*

Vernacular family name: hemp

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Humulus lupulus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

common hop:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

In addition to allergic responses, the hairs on the leaves may cause mechanical abrasion of the skin (Fuller and McClintock 1986).

### **Toxic parts:**

leaves  
mature fruit

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[blistering](#)  
[conjunctivitis](#)  
[erythema](#)

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Raith, L., Jager, K. 1984. Hop allergy. Contact Dermatitis, 11: 53.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: common milkweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Common milkweed (*Asclepias syriaca*) is a native perennial herb found in eastern Canada in fields, ditches, and waste places. This plant has poisoned sheep in the eastern United States. The plant contains cardiac glycosides, which are toxic to animals (Reynard and Norton, Joubert 1989).

### References:

Joubert, J. P. 1989. Cardiac glycosides. Pages 61-97 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

### Nomenclature:

Scientific Name: *Asclepias syriaca* L.

Vernacular name(s): common milkweed

Scientific family name: *Asclepiadaceae*

Vernacular family name: milkweed

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Asclepias syriaca](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

common milkweed:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

latex  
leaves  
stems

### **References:**

Joubert, J. P. 1989. Cardiac glycosides. Pages 61-97 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### **Toxic plant chemicals:**

desglucosyrioside  
syrioboside  
syrioside

### **References:**

Joubert, J. P. 1989. Cardiac glycosides. Pages 61-97 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press,

Inc., Boca Raton, Fla., USA. 277 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Sheep**

#### **General symptoms of poisoning:**

[death](#)

#### **Notes on poisoning:**

A dozen sheep died after ingesting large amounts of common milkweed in Maryland. The plants, which were almost the only vegetation available during a drought, are normally distasteful to livestock (Reynard and Norton 1942).

#### **References:**

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

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Date modified: 2009-09-01

[Important Notices](#)





| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: common privet](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Common privet (*Ligustrum vulgare*) is an ornamental shrub that is often planted as a hedge, and therefore the flowers and berries are trimmed. In older European literature, ingesting the berries has been noted to cause sickness in children. In more recent cases of ingestion by children, symptoms included only vomiting and diarrhea, after up to 12 berries were eaten (Frohne and Pfander 1983). Reynard and Norton (1942) cite the case of sheep that died after ingesting the trimmings from a hedge of a related privet (*Ligustrum ovalifolium*).

### References:

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### Nomenclature:

Scientific Name: *Ligustrum vulgare* L.

Vernacular name(s): common privet

Scientific family name: *Oleaceae*

Vernacular family name: olive

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Ligustrum vulgare](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

common privet:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

mature fruit

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Notes on Toxic plant chemicals:**

Unknown chemicals are involved in common privet poisoning. Frohne and Pfander (1983) note that lignan glycosides, saponins, and seco- iridoid bitter substances are likely involved.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[diarrhea](#)  
[vomiting](#)

### **Notes on poisoning:**

In recent reports the berries of common privet produced symptoms of diarrhea and vomiting only. In older literature, death was reported. Gastroenteritis may persist for 48-72 h. (Frohne and Pfander 1983, Lampe and McCann 1985).

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: common vetch](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Common vetch (*Vicia sativa*) was introduced as a forage plant and is naturalized across much of Canada. Some horses and other livestock that ingested the plant were poisoned. However, these reports are in the older European literature. In the western United States, poultry that ingested the seeds of common milk vetch were poisoned and died. Common milk vetch contains a neurotoxin that may be partly responsible for neurotoxicity, which usually occurs in humans in India and is associated with species of grass pea (see notes under [Lathyrus sativus](#)) (Cooper and Johnson 1984, Cheeke and Schull 1985).

### References:

- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Nomenclature:

Scientific Name: *Vicia sativa* L.

Vernacular name(s): common vetch

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Vicia sativa](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.
- Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ.,

Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia

Labrador

Manitoba

New Brunswick

Newfoundland

Nova Scotia

Ontario

Prince Edward Island

Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

common vetch:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

seeds

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Notes on Toxic plant chemicals:**

The toxic amino acid, beta-cyano-L-alanine, is a neurotoxin that affects the nervous system (Cheeke and Schull 1985, Roy and Spencer 1989).

### **Toxic plant chemicals:**

beta-cyano-L-alanine

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Roy, D. N., Spencer, P. S. 1989. Lathyrogens. Pages 169-201 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Chickens**

#### **General symptoms of poisoning:**

[blindness](#)

[convulsions](#)

[death](#)

#### **Notes on poisoning:**

In western Oregon, some chicks died after ingesting seeds of common milk vetch. Symptoms included blindness, convulsions, and a pronounced chirping, resembling a pyridoxine deficiency. Experimental feeding of a diet containing 30-80% seeds has caused these symptoms in poultry (Cooper and Johnson 1984, Cheeke and Schull 1985).

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Horses**

#### **General symptoms of poisoning:**

[abdominal pains](#)

[weakness](#)

[weakness, posterior](#)

#### **Notes on poisoning:**

Older European literature describes poisoning of livestock after the animals ingested common vetch. The symptoms included skin lesions, hair loss, digestive disturbances, and sometimes a loss of

use of hindquarters. Postmortem examination revealed enlargement of the liver. These problems have not been reported recently (Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
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| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: corn poppy](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Corn poppy (*Papaver rhoeas*) is an ornamental herb that has become naturalized in some provinces. This plant has poisoned cattle according to early European literature. No recent cases have been described, but the plant may be potentially poisonous if animals ingest it (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Nomenclature:

Scientific Name: *Papaver rhoeas* L.

Vernacular name(s): corn poppy

Scientific family name: *Papaveraceae*

Vernacular family name: poppy

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Papaver rhoeas](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus



Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

corn poppy:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
plant juices

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Notes on Toxic plant chemicals:**

Rhoeadine, an alkaloid, and other alkaloids are found in corn poppy (Cooper and Johnson 1984).

### **Toxic plant chemicals:**

rhoeadine

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

### **General symptoms of poisoning:**

[incoordination](#)

[recumbency](#)

[restlessness](#)

### **Notes on poisoning:**

Symptoms of poisoning are similar to those caused by other poppy species, including restlessness, incoordination, muscle spasms, and falling down (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: croton](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Croton (*Codiaeum variegatum*) is a common houseplant. Chewing the bark and roots is said to cause burning of the mouth. Some young leaves are used in the East Indies as a vegetable, but cases of irritation have been reported. The latex has caused eczema in some gardeners (Morton 1962, Frohne and Pfander 1983).

### References:

Morton, J. F. 1962. Ornamental plants with toxic and or irritant properties. II. Proc. Fla. State Hort. Soc., 75: 484-491.

Perkins, K. D., Payne, W. W. 1978. Guide to the poisonous and irritant plants of Florida. Univ. Fla. Agric. Ext. Serv. Circ., 441. 84 pp.

### Nomenclature:

Scientific Name: *Codiaeum variegatum* (L.) Blume

Vernacular name(s): croton

Scientific family name: *Euphorbiaceae*

Vernacular family name: spurge

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Codiaeum variegatum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

croton:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bark  
latex  
leaves  
roots

### **References:**

Perkins, K. D., Payne, W. W. 1978. Guide to the poisonous and irritant plants of Florida. Univ. Fla. Agric. Ext. Serv. Circ., 441. 84 pp.

### **Toxic plant chemicals:**

5-deoxyingenol

### **References:**

Perkins, K. D., Payne, W. W. 1978. Guide to the poisonous and irritant plants of Florida. Univ. Fla. Agric. Ext. Serv. Circ., 441. 84 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[eczema](#)  
[mouth, irritation of](#)

### **Notes on poisoning:**

Ingesting the bark or roots has caused burning and irritation of the mouth parts. Occasional eczema has been reported after repeated exposure to the latex (Morton 1962, Frohne and Pfander 1983).

### **References:**

Morton, J. F. 1962. Ornamental plants with toxic and or irritant properties. II. Proc. Fla. State Hortic. Soc., 75: 484-491.

Perkins, K. D., Payne, W. W. 1978. Guide to the poisonous and irritant plants of Florida. Univ. Fla. Agric. Ext. Serv. Circ., 441. 84 pp.

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[Français](#) | [Contact Us](#) | [Help](#) | [Search](#) | [Canada Site](#)

[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: crown-of-thorns](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Crown-of-thorns (*Euphorbia milii*) is an indoor ornamental plant. The plant contains caustic and irritant chemicals in the latex. This plant should not be ingested nor should the juice be rubbed on the skin or in the eyes. Family pets should not be allowed to ingest this plant.

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Euphorbia milii* Ch. des Moulins

Vernacular name(s): crown-of-thorns

Scientific family name: *Euphorbiaceae*

Vernacular family name: spurge

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Euphorbia milii](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

crown-of-thorns:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

latex

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Notes on Toxic plant chemicals:**

Unknown ingenol derivatives of toxic diterpenes are found in the latex of crown-of-thorns and have irritant properties (Frohne and Pfander 1983).

### **Toxic plant chemicals:**

5-deoxyingenol

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)  
[blistering](#)  
[mouth, irritation of](#)

### **Notes on poisoning:**

Crown-of-thorns contains an irritant in the latex that causes skin irritation and problems on mucous membranes and eye tissue. Ingestion can cause irritation of the mouth and stomach, and abdominal pains (Fuller and McClintock 1986).

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

[Another search?](#)

[Français](#) | [Contact Us](#) | [Help](#) | [Search](#) | [Canada Site](#)

[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date modified: 2009-09-01

[Important Notices](#)





|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: cut-leaved coneflower](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Cut-leaved coneflower (*Rudbeckia laciniata*) is native to some parts of Canada and is naturalized in others. A double-flowered form is also used as an ornamental in flower beds and is usually called golden glow. Early circumstantial evidence of poisoning of horses, sheep, and swine can be found. Experiments on sheep and swine have shown that some symptoms of toxicity can occur, although animals generally refuse to eat the unpalatable plants. Animal poisoning by this plant should be considered unlikely (Kingsbury 1964).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Skidmore, L. V., Peterson, N. F. 1932. Observations on the toxicity of golden glow (*Rudbeckia laciniata*) to swine and other animals. J. Am. Vet. Med. Assoc., 34: 655-662.

### Nomenclature:

Scientific Name: *Rudbeckia laciniata* L.

Vernacular name(s): cut-leaved coneflower

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rudbeckia laciniata](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

cut-leaved coneflower:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Ingesting the aboveground portion of this plant produced symptoms in some animals (Kingsbury 1964).

### **Toxic parts:**

flowers  
leaves  
stems

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### **Horses**

#### **Sheep**

### **General symptoms of poisoning:**

[anorexia](#)

[depression](#)

[incoordination](#)

### **Notes on poisoning:**

Experiments on sheep showed that animals ate the distasteful plant after a period of starvation. Ingesting plant material equal to 3-4% of body weight produced symptoms after 24 h. The primary symptoms were incoordination and listlessness. Respiratory rates increased. Animals returned to normal within 36 h (Kingsbury 1964).

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Skidmore, L. V., Peterson, N. F. 1932. Observations on the toxicity of golden glow (*Rudbeckia laciniata*) to swine and other animals. J. Am. Vet. Med. Assoc., 34: 655-662.

#### **Swine**

### **General symptoms of poisoning:**

[abdominal pains](#)

[anorexia](#)

[depression](#)

[incoordination](#)

### **Notes on poisoning:**

In experiments, swine ate the distaste plant material after a period of starvation. The animals exhibited incoordination, dullness, some signs of abdominal pain, and aimless wandering. The symptoms

disappeared within 36 h. Symptoms appeared after ingesting plant material equal to 3-4% of body weight. Symptoms could not be reproduced a second time with further feedings (Kingsbury 1964).

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Skidmore, L. V., Peterson, N. F. 1932. Observations on the toxicity of golden glow (*Rudbeckia laciniata*) to swine and other animals. J. Am. Vet. Med. Assoc., 34: 655-662.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: cyclamen](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Cyclamen (*Cyclamen persicum*) is a houseplant that has a toxic saponin, cyclamin, in the tuberous rhizomes. The rhizome is bitter and found underground, so that children or family pets are unlikely to be exposed to the toxins. There is no information on the amounts of saponins, if any, in cyclamen foliage (Spoerke et al. 1987).

### References:

Spoerke, D. G., Spoerke, S. E., Hall, A., Rumack, B. H. 1987. Toxicity of *Cyclamen persicum* (Mill). Vet. Hum. Toxicol., 29: 250-251.

### Nomenclature:

Scientific Name: *Cyclamen persicum* Mill.

Vernacular name(s): cyclamen

Scientific family name: *Primulaceae*

Vernacular family name: primrose

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Cyclamen persicum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

cyclamen:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The tuberous rhizomes contain the chemical cyclamin. However, these rhizomes are in the soil and have an acrid taste, so that ingestion by children is not likely (Spoerke et al. 1987). Cyclamin is a triterpenoid saponin, which is an irritant that can cause nausea and even paralysis upon absorption. The chemical is not volatile, but it is water soluble and can occur as small white crystals or an amorphous, lusterless mass (Spoerke et al. 1987).

### **Toxic parts:**

rhizome  
tubers

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Notes on Toxic plant chemicals:**

The tuberous rhizomes contain the chemical cyclamin. However, these rhizomes are in the soil and have an acrid taste, so that ingestion by children is not likely (Spoerke et al. 1987). Cyclamin is a triterpenoid saponin, which is an irritant that can cause nausea and even paralysis upon absorption. The chemical is not volatile, but it is water soluble and can occur as small white crystals or an amorphous, lusterless mass (Spoerke et al. 1987).

### **Toxic plant chemicals:**

cyclamin  
unknown chemical

### References:

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Santucci, B., Picardo, M., Cristaudo, A. 1985. Contact dermatitis from *Euphorbia pulcherrima*. Contact Dermatitis, 12: 285-286.

Spoerke, D. G., Spoerke, S. E., Hall, A., Rumack, B. H. 1987. Toxicity of *Cyclamen persium* (Mill). Vet. Hum. Toxicol., 29: 250-251.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Humans

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[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: cypress spurge](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Cypress spurge (*Euphorbia cyparissias*) is a naturalized herb found across southern Canada. Ingesting the plant has caused loss of cattle in New York State. This plant is usually avoided by livestock but is ingested if incorporated with hay. The plant is abundant in some locations in southern Ontario. Some humans are sensitive to the irritant latex and may develop inflammation.

### References:

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Stahevitch, A. E., Crompton, C. W., Wojtas, W. A. 1988. The biology of Canadian weeds. 85. *Euphorbia cyparissias* L. Can. J. Plant Sci., 68: 175-191.

### Nomenclature:

Scientific Name: *Euphorbia cyparissias* L.

Vernacular name(s): cypress spurge

Scientific family name: *Euphorbiaceae*

Vernacular family name: spurge

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Euphorbia cyparissias](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.



Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

cypress spurge:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The toxic compounds are found in the latex and seeds (Frohne and Pfander 1983).

### **Toxic parts:**

latex  
seeds

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Notes on Toxic plant chemicals:**

Unknown ingenanes, toxic diterpenes, are found in this plant (Frohne and Pfander 1983).

**Toxic plant chemicals:**

5-deoxyingenol

**References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[collapse](#)  
[death](#)  
[diarrhea](#)  
[weakness](#)

**Notes on poisoning:**

Cattle that have ingested hay containing large amounts of cypress spurge have had diarrhea followed by weakness, collapse, and death (Kingsbury 1964).

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

**Horses**

**Humans**

**General symptoms of poisoning:**

[blistering](#)

**References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

**Sheep**

[Another search?](#)





| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: daffodil](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Daffodil (*Narcissus pseudonarcissus*) is an ornamental that is planted outdoors as a spring-flowering perennial. It may be used indoors as a forced flower during the winter. The aboveground parts cause dermatitis in sensitive individuals. The bulbs can also cause dermatitis. Humans have been poisoned after ingesting bulbs thought to be onions, as have cattle when they were fed bulbs instead of feed in times of scarcity. Family pets may be at risk if they ingest daffodils (Mitchell and Rook 1979, Litovitz and Fahey 1982, Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Gonçalo, S., Freitas, J. D., Sousa, I. 1987. Contact dermatitis and respiratory symptoms and *Narcissus pseudonarcissus*. Contact Dermatitis, 16: 115-116.

Litovitz, T. L., Fahey, B. A. 1982. Please don't eat the daffodils. N. Eng. J. Med., 306: 547.

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### Nomenclature:

Scientific Name: *Narcissus pseudonarcissus* L.

Vernacular name(s): daffodil

Scientific family name: *Amaryllidaceae*

Vernacular family name: amaryllis

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Narcissus pseudonarcissus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du

Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

daffodil:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The bulbs of narcissus are toxic if ingested. All parts of the plant can cause allergic dermatitis in sensitive humans (Mitchell and Rook 1979).

### **Toxic parts:**

bulbs  
flowers  
leaves  
stems

### **References:**

Gonçalo, S., Freitas, J. D., Sousa, I. 1987. Contact dermatitis and respiratory symptoms and *Narcissus pseudonarcissus*. Contact

Dermatitis, 16: 115-116.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### **Toxic plant chemicals:**

lycorine

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[convulsions](#)  
[drowsiness](#)  
[gastroenteritis](#)

#### **Notes on poisoning:**

During World War II, cattle were fed daffodil bulbs because of scarce feed. They developed seizures, sedation, hypotension, and gastrointestinal and hepatic degeneration. Animal poisoning is more severe than human poisoning because humans develop rapid emesis (Litovitz and Fahey 1982, Cooper and Johnson 1984).

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Litovitz, T. L., Fahey, B. A. 1982. Please don't eat the daffodils. N. Eng. J. Med., 306: 547.

### **Humans**

#### **General symptoms of poisoning:**

[abdominal pains](#)  
[conjunctivitis](#)  
[diarrhea](#)

[dizziness](#)  
[dyspnea](#)  
[eczema](#)  
[erythema](#)  
[hoarseness](#)  
[itchiness](#)  
[nausea](#)  
[vomiting](#)

**Notes on poisoning:**

Ingesting daffodil bulbs produces the following symptoms: abdominal pains, vomiting, nausea, lightheadedness, shivering, and sometimes diarrhea. Because emesis is rapid, more severe symptoms do not usually occur. Ingesting bulbs is rare (Litovitz and Fahey 1982, Lampe and McCann 1985).

**References:**

Gonçalo, S., Freitas, J. D., Sousa, I. 1987. Contact dermatitis and respiratory symptoms and *Narcissus pseudonarcissus*. Contact Dermatitis, 16: 115-116.

Litovitz, T. L., Fahey, B. A. 1982. Please don't eat the daffodils. N. Eng. J. Med., 306: 547.

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

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Date modified: 2009-09-01 [Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: death camas](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Death camas (*Zigadenus venenosus*) is a native perennial herb that is found from British Columbia to southwestern Saskatchewan. The plant is one of the most toxic springtime plants, especially to sheep. Cattle and horses are also occasionally poisoned. Swine vomit the plant so readily that no natural cases of poisoning have been reported. Poultry may also be poisoned, although there are no reported cases. Honey bees are poisoned by the nectar and pollen (Kingsbury 1964, Barker 1978; Panter and James 1989). Humans have also been poisoned after ingesting the bulbs, which were mistaken for other plants such as onions (*Allium* spp.) or camas (*Camassia quamash*). Ingesting the flowers and flower buds has caused poisoning in children (Cameron 1952, Spoerke and Spoerke 1979). These plants should be considered poisonous to all livestock and humans.

### References:

Barker, R. J. 1980. Poisoning by plants. Pages 275-296 in Morse, R. A., ed. Honey bee pests, predators, and diseases. Cornell University Press, Ithaca, N.Y., USA. 430 pp.

Cameron, K. 1952. Death camas poisoning. Northwest Med., 1952: 682-683.

Dayton, W. A. 1960. Notes on western range forbes. U. S. For. Serv. Wash. Agric. Hand., 161. 254 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Long, R. 1981. Some liliaceae of British Columbia. Davidsonia, 12: 85-88.

Panter, K. E., James, L. F. 1989. Death camas-early grazing can be hazardous. Rangelands, 11: 147-149.

Spoerke, D. G., Spoerke, S. E. 1979. Three cases of *Zigadenus* (death camas) poisoning. Vet. Hum. Toxicol., 21: 346-347.

### Nomenclature:

Scientific Name: *Zigadenus venenosus* S. Wats.



Vernacular name(s): death camas

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Zigadenus venenosus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Alberta  
British Columbia  
Saskatchewan

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

death camas:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

All parts of death camas contain toxic alkaloids, with the bulbs containing the most. The bulbs may be pulled up by animals when the ground is wet or may be ingested by humans who mistake them for other plants, such as onions. The nectar and pollen are poisonous to bees. Most cases of animal poisoning occur in spring, when other forage is not plentiful (Kingsbury 1964, Barker 1978).

**Toxic parts:**

all parts  
bulbs  
flowers  
leaves  
pollen

**References:**

Barker, R. J. 1980. Poisoning by plants. Pages 275-296 in Morse, R. A., ed. Honey bee pests, predators, and diseases. Cornell University Press, Ithaca, N.Y., USA. 430 pp.

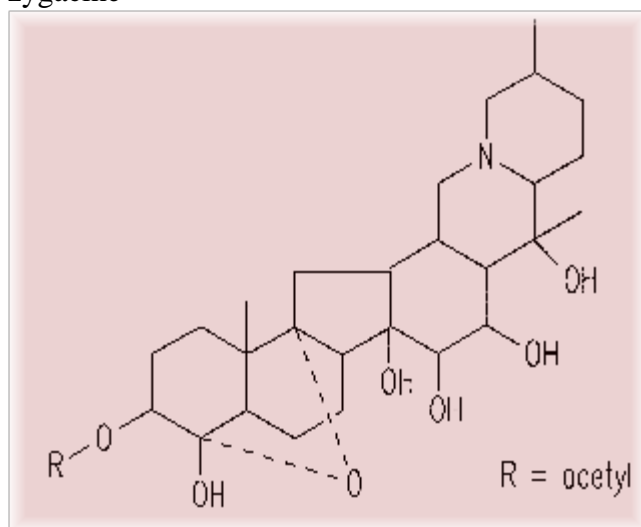
Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

**Notes on Toxic plant chemicals:**

Steroidal alkaloids, including zygacine, have been found in these plants. Death camas is considered to be the most toxic members of the genus *Zigadenus*. The average minimum lethal dose in sheep is estimated to be equal to ingesting 0.6-2.0% of an animal's body weight in plant material (Kingsbury 1964).

**Toxic plant chemicals:**

zygacine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

## References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Cattle

### General symptoms of poisoning:

[ataxia](#)

[death](#)

[dyspnea](#)

[nausea](#)

[prostration](#)

[salivation](#)

[trembling](#)

### Notes on poisoning:

Cattle are occasionally poisoned by death camas. Symptoms are very similar to those for other livestock. Salivation is sometimes less and nausea greater than in sheep. Other symptoms include muscular weakness, ataxia, trembling, prostration, and death. The heart action becomes weakened (Kingsbury 1964).

## References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## Honey bees

### General symptoms of poisoning:

[death](#)

### Notes on poisoning:

In field cases, adult bees died after foraging on this plant. In experiments, both the nectar and pollen, collected by centrifugation, poisoned the bees. The plants bloom for only a couple of weeks and secrete little nectar. Solitary native bees seem less affected by the toxins (Barker 1978).

## References:

Barker, R. J. 1980. Poisoning by plants. Pages 275-296 in Morse, R. A., ed. Honey bee pests, predators, and diseases. Cornell University Press, Ithaca, N.Y., USA. 430 pp.

## Horses

### **General symptoms of poisoning:**

[colic](#)

[depression](#)

[diarrhea](#)

[salivation](#)

### **Notes on poisoning:**

Horses have been poisoned after ingesting hay containing immature seed pods of death camas. The symptoms of illness included colic, salivation, cramping, depression, and intermittent diarrhea (Fuller and McClintock 1986).

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Humans**

### **General symptoms of poisoning:**

[blood pressure, low](#)

[breathing, shallow](#)

[coma](#)

[death](#)

[diarrhea](#)

[drowsiness](#)

[pupil dilation](#)

[vomiting](#)

### **Notes on poisoning:**

Humans have been poisoned after ingesting the bulbs and flowers. In most cases, the bulbs are mistaken for onions. A 2-year-old child became ill after eating the blossoms. Symptoms of poisoning include vomiting, slow breathing, unconsciousness (though responsive to pain or movement), hyperactive tendons and limbs, pupil dilation, and hypotension. The alkaloids cause local irritation when ingested and affect the cardiovascular system by slowing the heart and decreasing blood pressure. Treatment includes emesis, activated charcoal, and saline cathartic. Atropine was also given (Cameron 1952, Spoerke and Spoerke 1979).

### **References:**

Cameron, K. 1952. Death camas poisoning. Northwest Med., 1952: 682-683.

Long, R. 1981. Some liliaceae of British Columbia. Davidsonia, 12: 85-88.

Spoerke, D. G., Spoerke, S. E. 1979. Three cases of *Zigadenus*

(death camas) poisoning. Vet. Hum. Toxicol., 21: 346-347.

## **Poultry**

### **General symptoms of poisoning:**

[coma](#)

[death](#)

[diarrhea](#)

[incoordination](#)

[prostration](#)

### **Notes on poisoning:**

In one case (with an related species of *Zigadenus*), poultry were poisoned. Symptoms included diarrhea, staggering gait, incoordination, prostration, and coma. Many birds died (Kingsbury 1964). Death camas can also poison poultry if they ingest the tender shoots.

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## **Sheep**

### **General symptoms of poisoning:**

[breathing, shallow](#)

[cyanosis](#)

[death](#)

[mouth, frothing of](#)

[muscle, weakness of](#)

[nasal discharge](#)

[prostration](#)

[salivation](#)

[urination, frequent](#)

[vomiting](#)

### **Notes on poisoning:**

Death camas is considered to be one of the most toxic plants on the western rangelands, and ingestion causes greater loss of life of sheep than any other plant in springtime. Symptoms include excessive salivation, nausea, frothing at the nose and mouth, vomiting, increased urination and defecation, muscular weakness, ataxia, prostration, and death resulting from heart failure. Postmortem examination shows the heart in complete diastole. Coma may occur for a few hours to several days before death. Lesions include severe pulmonary congestion, edema, and hemorrhage. Losses occur most frequently in the spring, when other forage is not plentiful (Long 1981, Panter and James 1989).

### **References:**

Dayton, W. A. 1960. Notes on western range forbes. U. S. For. Serv. Wash. Agric. Hand., 161. 254 pp.

Long, R. 1981. Some liliaceae of British Columbia. Davidsonia, 12: 85-88.

Panter, K. E., James, L. F. 1989. Death camas-early grazing can be hazardous. Rangelands, 11: 147-149.

## **Swine**

### **General symptoms of poisoning:**

[diarrhea](#)  
[vomiting](#)

### **Notes on poisoning:**

Experiments show that swine are susceptible to the poisons, but cases of poisoning are not encountered under natural conditions because swine readily expel the material by vomiting (Kingsbury 1964).

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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|---|----------------------------|-----------------------|--|-----------------------------|
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| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
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## [Notes on poisoning: Devil's-backbone](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Devil's-backbone (*Kalanchoe daigremontiana*) is an indoor ornamental plant. This plant contains a cardiac glycoside that has caused experimental toxicity and death in chicks and mice. It has caused illness in pets, such as rabbits and mice. Dogs and cats are also at risk from ingesting plant material. The plants should be kept away from children, as well. Devil's-backbone produces plantlets along the leaf margins, which fall off and become new plants. These plantlets can be found in profusion around the pot in which an adult devil's-backbone is growing. Children and family pets have easy access to these plantlets. Several other species of *Kalanchoe* may be found growing as houseplants in Canada. Tests have shown that some of them may also contain toxic bufadienolide compounds. These compounds were only recently discovered (Williams and Smith 1985, Joubert 1989), and so caution should be exercised with all species. Some members of the genus *Kalanchoe* have caused poisoning of sheep and cattle in South Africa and Australia, where they are native or naturalized (Cheeke and Schull 1985, Williams and Smith 1985).

### References:

- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.
- Joubert, J. P. 1989. Cardiac glycosides. Pages 61-97 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.
- Wagner, H., Fischer, M., Lotter, H. 1985. Isolation and structure determination of daigremontianin, a novel bufadienolide from *Kalanchoe daigremontiana*. *Planta Med.*, 33: 169-171.
- Williams, M. C., Smith, M. C. 1984. Toxicity of *Kalanchoe* spp. to chicks. *Am. J. Vet. Res.*, 45: 543-546.

### Nomenclature:

Scientific Name: *Kalanchoe daigremontiana* Hamet & Perr.

Vernacular name(s): Devil's-backbone

Scientific family name: *Crassulaceae*

Vernacular family name: orpine

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Kalanchoe daigremontiana](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Plant or plant parts used in or around the home.

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

Devil's-backbone:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

Williams and Smith (1984) found that the leaves contained more toxin than the stems.



### **Toxic parts:**

leaves  
stems

### **References:**

Joubert, J. P. 1989. Cardiac glycosides. Pages 61-97 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

Wagner, H., Fischer, M., Lotter, H. 1985. Isolation and structure determination of daigremontianin, a novel bufadienolide from *Kalanchoe daigremontiana*. *Planta Med.*, 33: 169-171.

Williams, M. C., Smith, M. C. 1984. Toxicity of *Kalanchoe* spp. to chicks. *Am. J. Vet. Res.*, 45: 543-546.

### **Notes on Toxic plant chemicals:**

Daigremontianin is a bufadienolide. Bufadienolides are cardiac glycosides that are similar to cardenolides, differing only in the structure of the C-17 substituent on the D ring. This chemical has been found to be toxic in experiments on mice (Wagner et al. 1985).

### **Toxic plant chemicals:**

daigremontianin

### **References:**

Wagner, H., Fischer, M., Lotter, H. 1985. Isolation and structure determination of daigremontianin, a novel bufadienolide from *Kalanchoe daigremontiana*. *Planta Med.*, 33: 169-171.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cats**

#### **General symptoms of poisoning:**

[breathing, labored](#)  
[convulsions](#)  
[paralysis](#)

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Chickens**

### **General symptoms of poisoning:**

[breathing, labored](#)

[convulsions](#)

[death](#)

[depression](#)

[incoordination](#)

[muscle twitching](#)

[paralysis](#)

[trembling](#)

### **Notes on poisoning:**

Experimental feeding of leaf extracts to chicks caused depression, closed eyes, ruffled and drooping feathers, twitching of the neck and head, and often spiralling of the head over the back. In severe cases, convulsions, paralysis, neck and limb tremors, and death occurred. A dosage of 8 mg/g of body weight caused mild symptoms; dosages between 12-20 mg/g of body weight caused some deaths. Stem extracts produced less severe symptoms and no deaths, even when fed at the equivalent of 20 mg/g of body weight (Williams and Smith 1984).

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Williams, M. C., Smith, M. C. 1984. Toxicity of *Kalanchoe* spp. to chicks. Am. J. Vet. Res., 45: 543-546.

### **Rabbits**

#### **General symptoms of poisoning:**

[breathing, rapid](#)

[opisthotonos](#)

[paralysis](#)

#### **Notes on poisoning:**

A pet rabbit ate three-quarters of a leaf and became depressed and torpid; it subsequently experienced rapid breathing and teeth grinding. It fell down when attempting to walk. Paralysis followed. An injection of atropine was administered, and the rabbit recovered fully within 9 h (Williams and Smith 1984).

#### **References:**

Williams, M. C., Smith, M. C. 1984. Toxicity of *Kalanchoe* spp. to chicks. Am. J. Vet. Res., 45: 543-546.

### **Rodents**

#### **General symptoms of poisoning:**

[muscle spasms](#)

[paralysis](#)

**Notes on poisoning:**

In motility tests, mice experimentally fed the chemical daigremontianin at dosages of 0.1-0.5 mg/kg experienced a strong sedative effect. Higher concentrations resulted in paralysis and spasmodic muscular contractions (Wagner et al. 1985).

**References:**

Wagner, H., Fischer, M., Lotter, H. 1985. Isolation and structure determination of daigremontianin, a novel bufadienolide from *Kalanchoe daigremontiana*. *Planta Med.*, 33: 169-171.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: dumbcane](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Dumbcane (*Dieffenbachia bausei*) is an ornamental houseplant. Experimental work caused death in mice when leaf tissue extract was fed orally at the rate of 100 mg of lyophilized plant material (in distilled water) per 35 g of body weight (Der Marderosian et al. 1976).

### References:

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

### Nomenclature:

Scientific Name: *Dieffenbachia bausei* Regel

Vernacular name(s): dumbcane

Scientific family name: *Araceae*

Vernacular family name: arum

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

dumbcane:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

### **Notes on Toxic plant chemicals:**

See notes under [Dieffenbachia seguine](#) for additional information on toxic chemicals in *Dieffenbachia* spp.

### **Toxic plant chemicals:**

oxalate

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Rodents**

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| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Dutchman's-breeches](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Dutchman's-breeches (*Dicentra cucullaria*) is a native herb found in the rich woodlands of eastern Canada. The plant has been shown to cause poisoning when fed to cattle under experimental conditions. The underground tubers caused more severe symptoms. When plant tubers were fed at 2 kg/100 kg of animal weight, various symptoms occurred, including trembling and convulsions (Black et al. 1923). Poisoning may occur during the spring, when the ground is soft and the tubers might be dug up.

### References:

Black, O. F., Eggleston, W. W., Kelly, J. W., Turner, H. C. 1923. Poisonous properties of *Bikukulla cucullaria* (Dutchman's-breeches) and *B. canadensis* (squirrel-corn). J. Agric. Res., 23: 69-78.

### Nomenclature:

Scientific Name: *Dicentra cucullaria* (L.) Bernh.

Vernacular name(s): Dutchman's-breeches

Scientific family name: *Fumariaceae*

Vernacular family name: frumitory

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Dicentra cucullaria](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Dutchman's-breeches:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

When the plant was fed to cattle during experiments the underground tubers caused more symptoms than the aboveground portion of the plant (Black et al. 1923).

### **Toxic parts:**

leaves  
tubers

### **References:**

Black, O. F., Eggleston, W. W., Kelly, J. W., Turner, H. C. 1923. Poisonous properties of *Bikukulla cucullaria* (Dutchman's-breeches) and *B. canadensis* (squirrel-corn). J. Agric. Res., 23: 69-78.

### **Notes on Toxic plant chemicals:**

Several isoquinoline alkaloids have been found in *Dicentra* species, including aporphine and protopine. The degree of toxicity of the various alkaloids is not known (Black et al. 1923). Protopine is also found in the opium poppy (*Papaver somniferum*).



### **Toxic plant chemicals:**

aporphine  
protopine

### **References:**

Black, O. F., Eggleston, W. W., Kelly, J. W., Turner, H. C. 1923.  
Poisonous properties of *Bikukulla cucullaria* (Dutchman's-breeches)  
and *B. canadensis* (squirrel-corn). J. Agric. Res., 23: 69-78.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[breathing, labored](#)  
[convulsions](#)  
[mouth, frothing of](#)  
[nervousness](#)  
[opisthotonos](#)  
[trembling](#)

#### **Notes on poisoning:**

Experimental feeding of cattle caused the animals to become nervous, run back and forth, violently eject stomach contents, tremble, convulse, and fall down with the legs extended and rigid. The cattle were able to rise again and recover after a while (Black et al. 1923).

### **References:**

Black, O. F., Eggleston, W. W., Kelly, J. W., Turner, H. C. 1923.  
Poisonous properties of *Bikukulla cucullaria* (Dutchman's-breeches)  
and *B. canadensis* (squirrel-corn). J. Agric. Res., 23: 69-78.

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[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: eastern whorled milkweed](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



### **General poisoning notes:**

Eastern whorled milkweed (*Asclepias verticillata*) is a native plant found in fields in parts of southern Canada. It has caused poisoning in experimental feeding tests in sheep. Large quantities of fresh plant were administered with a balling gun at about 2.2% of body weight, causing symptoms of poisoning (Marsh and Clawson 1921). The early literature is rife with contradictions in determining the scientific names of various milkweeds. *Asclepias verticillata* was termed *Asclepias verticillata* var. *geyeri* in Marsh and Clawson (1921). For more information on *Asclepias* taxonomy see Woodson (1954).

### **References:**

Clark, J. G. 1979. Whorled milkweed poisoning. Vet. Hum. Toxicol., 21: 431.

Marsh, C. D., Clawson, A. B. 1921. Poisonous properties of the whorled milkweeds *Asclepias pumila* and *A. verticillata* var. *geyeri*. U. S. Dept. Agric. Bull., 942. 14 pp.

Woodson, R. E. 1954. The North American species of *Asclepias* L. Ann. Mo. Bot. Gard., 41: 1-211.

### **Nomenclature:**

Scientific Name: *Asclepias verticillata* L.

Vernacular name(s): eastern whorled milkweed

Scientific family name: *Asclepiadaceae*

Vernacular family name: milkweed

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Asclepias verticillata](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba  
Ontario  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

eastern whorled milkweed:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

flower buds  
leaves

### **References:**

Clark, J. G. 1979. Whorled milkweed poisoning. Vet. Hum. Toxicol., 21: 431.

### **Toxic plant chemicals:**

galitoxin

### **References:**

Clark, J. G. 1979. Whorled milkweed poisoning. Vet. Hum. Toxicol., 21: 431.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Sheep**

### **General symptoms of poisoning:**

[agitation](#)

[bloat](#)

[breathing, labored](#)

[convulsions](#)

[death](#)

[depression](#)

[opisthotonos](#)

[pupil dilation](#)

[temperature, elevated](#)

[trembling](#)

[weakness, posterior](#)

### **Notes on poisoning:**

Experimental feeding of fresh eastern whorled milkweed caused poisoning in sheep. The animals fell down and went through characteristic running movements. The head and jaws occasionally moved compulsively. The pulse was often weak. Ingesting 2.2% of body weight was necessary to produce serious poisoning in sheep. Animals do not normally eat these distasteful plants or other milkweeds (Marsh and Clawson 1921).

### **References:**

Clark, J. G. 1979. Whorled milkweed poisoning. *Vet. Hum. Toxicol.*, 21: 431.

Marsh, C. D., Clawson, A. B. 1921. Poisonous properties of the whorled milkweeds *Asclepias pumila* and *A. verticillata* var. *geyeri*. U. S. Dept. Agric. Bull., 942. 14 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: English bluebell](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

English bluebell (*Endymion non-scriptus*) is an ornamental bulb plant that is grown outdoors and forced indoors for its early spring flowers. This species was formerly included under the genus *Scilla*. The plant contains glycosides, which are chemically similar to the cardiac glycoside digitalis. Cattle, a horse, and humans were poisoned after ingesting this plant. Children or family pets should be prevented from chewing the plants (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Nomenclature:

Scientific Name: *Hyacinthoides nonscripta* (L.) Garcke

Vernacular name(s): English bluebell

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Hyacinthoides nonscripta](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci.

(Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

English bluebell:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
bulbs  
flowers  
leaves

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Notes on Toxic plant chemicals:**

The plant contains glycosides, generally termed scillarens, which are similar to the cardiac glycoside digitalis (Cooper and Johnson 1984).

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[breathing, shallow](#)

[heart rate, slow](#)

[lethargy](#)

[temperature, depressed](#)

#### **Notes on poisoning:**

A group of cows and calves in Britain grazed on English bluebells and a few days later became dull and lethargic, chewed intermittently, and produced hard, dry feces. Temperature and respiration were decreased and heart beat became erratic. Lactating cows became dry. Recovery was slow when the cows were removed from the plants and given extra feed (Cooper and Johnson 1984).

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Horses**

#### **General symptoms of poisoning:**

[abdominal pains](#)

[diarrhea](#)

[skin, cold and moist](#)

[temperature, depressed](#)

[urination, absent](#)

[vomiting](#)

#### **Notes on poisoning:**

A horse that ate several bulbs of English bluebell became ill within 6 h. Symptoms included initial choking, abdominal pain, slow pulse, low temperature, and cold, clammy skin. Within 10 h the animal produced dark-colored diarrhea with blood and ceased urinating. The horse recovered slowly, passing blood-stained urine for several days (Cooper and Johnson 1984).

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[diarrhea](#)

[heart rate, slow](#)

[skin, flushed](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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Date modified: 2009-09-01

[Important Notices](#)





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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: English holly](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

English holly (*Ilex aquifolium*) has been implicated in cases where children have eaten the berries. Kingsbury (1969) noted that the often-quoted fatal dosage of 20-30 berries comes from European literature before 1889 and that this quantity has not been confirmed. Modern references show that symptoms are usually confined to vomiting and diarrhea (Cooper and Johnson 1984, Lampe and McCann 1985). This holly is used as an outdoor ornamental, and the glossy green leaves and red berries may be sold as Christmas decorations.

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Kingsbury, J. M. 1969. Phytotoxicity 1. Major problems associated with poisonous plants. Clin. Pharmacol. Ther., 10: 163-169.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Ilex aquifolium* L.

Vernacular name(s): English holly

Scientific family name: *Aquifoliaceae*

Vernacular family name: holly

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Ilex aquifolium](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and

botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

English holly:

Images: [images.google.com](http://images.google.com)

### **Toxic parts:**

mature fruit

### **References:**

Willems, M. 1988. A cyanogenic glucoside from *Ilex aquifolium*. Phytochemistry (Oxf.), 27: 1852-1853.

### **Notes on Toxic plant chemicals:**

Ilicin, a glycoside, has been implicated as the toxic substance in in holly berries (Rodrigues et al. 1984). A cyanogenic glycoside, (2-beta-D-glucopyranosyloxy-p-hydroxy-6,7-dihydromandelonitrile) has also been isolated from the berries of English holly. The chemical also occurs in lower concentrations in the leaves and stems. A common name for this chemical has not been established yet (Willems 1988).

### **Toxic plant chemicals:**

-dihydromandelonitrile  
ilicin

### **References:**

Willems, M. 1988. A cyanogenic glucoside from *Ilex aquifolium*.  
Phytochemistry (Oxf.), 27: 1852-1853.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[diarrhea](#)  
[nausea](#)  
[vomiting](#)

### **Notes on poisoning:**

Symptoms include multiple episodes of vomiting, nausea, and diarrhea. If a large number of berries are ingested, vomiting should be induced with an emetic. Conservative management is generally adequate (Cooper and Johnson 1984, Lampe and McCann 1985).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: English ivy](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

English ivy (*Hedera helix*) is an indoor and outdoor ornamental vine. This plant contains saponins, which have caused poisoning in cattle, dogs, sheep, and humans. Two chemicals in the sap can also cause severe contact dermatitis in sensitive humans. Cases of poisoning are found in older European literature; the plant grows naturally in Europe. Cattle that ingested large quantities of the vines were ill for a few days. Humans who ingested the berries have shown symptoms, including coma. Dermatitis is rare but can be severe. Weeping lesions and blisters respond slowly to treatment (Cooper and Johnson 1984, Massmanian et al. 1980). Family pets should not be allowed to eat English ivy leaves.

### References:

Boyle, J., Harman, R. M. 1985. Contact dermatitis to *Hedera helix* (common ivy). *Contact Dermatitis*, 12: 111-112.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Massmanian, A., Valcuende Cavero, F., Ramirez Bosca, A., Castells Rodellas, A. 1988. Contact dermatitis from variegated ivy (*Hedera helix* subsp. *canariensis* Willd.). *Contact Dermatitis*, 18: 247-248.

Mitchell, J. C. 1981. Allergic contact dermatitis from *Hedera helix* and *Brassaia actinophylla* (Araliaceae). *Contact Dermatitis*, 7: 158-159.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Hedera helix* L.

Vernacular name(s): English ivy

Scientific family name: *Araliaceae*

Vernacular family name: aralia

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Hedera helix](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Plant or plant parts used in or around the home.

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

English ivy:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

The sap contained in the leaves and stems of English ivy can cause dermatitis and irritation in sensitive humans. The dermatitis usually occurs after pruning the plant (Massmanian et al. 1988). The leaves and fruit contain saponins that hydrolyze into toxic hederin compounds. These toxins have caused poisoning in animals and humans (Cooper and Johnson 1984).

**Toxic parts:**

leaves  
mature fruit  
plant juices

**References:**

Boyle, J., Harman, R. M. 1985. Contact dermatitis to *Hedera helix* (common ivy). *Contact Dermatitis*, 12: 111-112.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Massmanian, A., Valcuende Cavero, F., Ramirez Bosca, A., Castells Rodellas, A. 1988. Contact dermatitis from variegated ivy (*Hedera helix* subsp. *canariensis* Willd.). *Contact Dermatitis*, 18: 247-248.

**Notes on Toxic plant chemicals:**

English ivy contains hederasaponins, which undergo partial hydrolysis to form toxic substances (micro-hederin and beta-hederin). These toxins can cause poisoning in humans and other animals if ingested in sufficient quantities. English ivy also contains allergenic and irritant chemicals, falcarinol and didehydrofalcarinol, which cause intense burning and dermatitis in sensitive humans (Cooper and Johnson 1984; Massmanian et al. 1988).

**Toxic plant chemicals:**

didehydrofalcarinol  
falcarinol  
hederasaponins

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Massmanian, A., Valcuende Cavero, F., Ramirez Bosca, A., Castells Rodellas, A. 1988. Contact dermatitis from variegated ivy (*Hedera helix* subsp. *canariensis* Willd.). *Contact Dermatitis*, 18: 247-248.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**Dogs**

**General symptoms of poisoning:**

[agitation](#)  
[diarrhea](#)  
[muscle spasms](#)  
[paralysis](#)  
[vomiting](#)

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Humans

#### General symptoms of poisoning:

[blisters, weeping](#)  
[breathing, labored](#)  
[coma](#)  
[convulsions](#)  
[diarrhea](#)  
[erythema](#)  
[muscle spasms](#)  
[paralysis](#)  
[vomiting](#)

#### Notes on poisoning:

Cattle that ingested large quantities of English ivy vine became ill and excitable, started staggering, and bellowed loudly. The odor of crushed ivy leaves was on the breath and in the milk. Recovery was quick and complete in three days (Cooper and Johnson 1984). English ivy berries are often listed as being poisonous to children, and cases of English ivy poisoning are listed in older European literature. Symptoms of ingestion included laboured breathing, coma, convulsions, and excitation (Cooper and Johnson 1984). Frohne and Pfander (1983) state that the ripe berries are dry and taste bitter. Large quantities are unlikely to be consumed by children.

### References:

Boyle, J., Harman, R. M. 1985. Contact dermatitis to *Hedera helix* (common ivy). Contact Dermatitis, 12: 111-112.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Massmanian, A., Valcuende Cavero, F., Ramirez Bosca, A., Castells Rodellas, A. 1988. Contact dermatitis from variegated ivy (*Hedera helix* subsp. *canariensis* Willd.). Contact Dermatitis, 18: 247-248.

### Sheep

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Date modified: 2009-09-01

[Important Notices](#)





|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: English yew](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### **General poisoning notes:**

English yew (*Taxus baccata*) is an introduced ornamental shrub that is hardy in the warmest parts of Canada. This shrub has caused poisoning and death in cattle, horses, and humans. Ingesting leaves, bark, or seeds can cause poisoning in all animals. The fleshy fruit pulp is considered to be nontoxic (or low in toxicity). Taxine, a complex of alkaloids, is found in the plant. Children should be taught not to eat the fruit or seeds of this plant. Animals should not have access to the shrub or clippings of the branches (Cooper and Johnson 1984, Feldman et al. 1987).

### **References:**

Burke, M. J., Siegel, D., Davidow, B. 1979. Anaphylaxis. Consequence of yew (*Taxus*) needle ingestion. N. Y. State J. Med., 79: 1576-1577.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Feldman, R., Szajewski, J. M., Chrobak, J., Liberek, Z. M. 1987. Four cases of self-poisoning with yew leaves decoction. Vet. Hum. Toxicol., 29: 72.

### **Nomenclature:**

Scientific Name: *Taxus baccata* L.

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

English yew:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of the plant contain significant amounts of the alkaloids, with the exception of the fleshy part of the fruits, which is regarded as nontoxic or low in toxicity. The seeds are toxic. Ingesting the entire fruits without removing the seeds can cause poisoning. Toxicity is not reduced with drying. Hedge clippings from these plants are as toxic as fresh plants (Cooper and Johnson 1984).

### **Toxic parts:**

leaves  
pollen  
seeds

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Feldman, R., Szajewski, J. M., Chrobak, J., Liberek, Z. M. 1987. Four cases of self-poisoning with yew leaves decoction. Vet. Hum. Toxicol., 29: 72.

### **Notes on Toxic plant chemicals:**

Taxine (taxin) is a complex mixture of alkaloids that is rapidly

absorbed from the digestive tract and interferes with heart action. Case studies on humans have shown that the alkaloids are strongly diuretic and cause severe ventricular rhythms (Feldman et al. 1987). Smith (1989) discusses a technique to diagnose taxine quickly, using direct insertion probe mass spectrometry from the rumen. The lethal dose was estimated at 1-10 g/kg of body weight for ruminants and 0.5-2 g/kg for horses (Cooper and Johnson 1984).

### **Toxic plant chemicals:**

taxine

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Feldman, R., Szajewski, J. M., Chrobak, J., Liberek, Z. M. 1987. Four cases of self-poisoning with yew leaves decoction. *Vet. Hum. Toxicol.*, 29: 72.

Smith, R. A. 1989. Comments on diagnosis of intoxication due to *Taxus*. *Vet. Hum. Toxicol.*, 31: 177.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[agitation](#)

[collapse](#)

[convulsions](#)

[death](#)

[gait, staggering](#)

[incoordination](#)

[pupil dilation](#)

[trembling](#)

#### **Notes on poisoning:**

In Europe, cattle have been poisoned after ingesting English yew. Symptoms include muscular trembling, coldness, a rapid and then weak pulse, and groaning. In some cases, symptoms are not evident until sudden collapse or death. Death does not always occur and spontaneous recovery has been reported. Postmortem findings may only show yew plant material in the stomach. Inflammation of the stomach and intestines may occur (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## Horses

### General symptoms of poisoning:

[abdominal pains](#)

[collapse](#)

[confusion](#)

[death](#)

[gait, staggering](#)

[incoordination](#)

### Notes on poisoning:

Horses have symptoms similar to cattle after ingesting plant material of English yew. In one experiment, a pony given a strained aqueous extract from yew twigs and berries, by stomach tube, developed signs after 1 h and died 15 min later. Ingestion results in the following symptoms: coldness, a rapid and then weak pulse, excitability, and collapse, followed by death (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## Humans

### General symptoms of poisoning:

[abdominal pains](#)

[coma](#)

[death](#)

[dizziness](#)

[dyspnea](#)

[heart rate, slow](#)

[itchiness](#)

[muscle, weakness of](#)

[sweating](#)

[urination, frequent](#)

[vomiting](#)

### References:

Burke, M. J., Siegel, D., Davidow, B. 1979. Anaphylaxis. Consequence of yew (*Taxus*) needle ingestion. N. Y. State J. Med., 79: 1576-1577.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery

Office, London, England. 305 pp.

Feldman, R., Szajewski, J. M., Chrobak, J., Liberek, Z. M. 1987.  
Four cases of self-poisoning with yew leaves decoction. Vet. Hum.  
Toxicol., 29: 72.

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[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: entire-leaved groundsel](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Entire-leaved groundsel (*Senecio integerrimus*) is a native herb found through parts of western Canada in the prairies, parklands, and parts of the Rocky Mountains. This plant has caused experimentally chronic poisoning of cattle and horses. Ingesting the plant material over long periods causes irreversible liver damage in animals. This plant grows when other forage is abundant so that it is not a toxic threat unless forage is scarce or the plant is abundant in an area to be cut for hay (Clawson 1933).

### References:

Clawson, A. B. 1933. The American groundsels species of *Senecio* as stock poisoning plants. *Vet. Med. Small Anim. Clin.*, 28: 105-110.

### Nomenclature:

Scientific Name: *Senecio integerrimus* Nutt.

Vernacular name(s): entire-leaved groundsel

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Senecio integerrimus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Northwest Territories  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

entire-leaved groundsel:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Ingesting the aboveground parts caused poisoning of cattle and horses in experiments. Two cows died after ingesting 92.3 and 135% of their body weight in green plants. A horse fed plants equal to 156% of its body weight (in 81 days) died. A horse fed 76% of its body weight (in 79 days) suffered liver damage. Sheep fed 4.5 kg of green plant material for 28 days showed no symptoms. Liver damage results from ingesting this plant material but takes a long time to develop (Clawson 1933).

### **Toxic parts:**

all parts  
flowers  
leaves  
stems

### **References:**

Clawson, A. B. 1933. The American groundsels species of *Senecio* as stock poisoning plants. Vet. Med. Small Anim. Clin., 28: 105-110.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

**Notes on Toxic plant chemicals:**

Pyrrolizidine alkaloids are found in other toxic members of the genus *Senecio* and are probably the chemicals responsible for cases of poisoning found in experiments.

**Toxic plant chemicals:**

unknown chemical

**References:**

Clawson, A. B. 1933. The American groundsels species of *Senecio* as stock poisoning plants. *Vet. Med. Small Anim. Clin.*, 28: 105-110.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[death](#)

[depression](#)

[icterus](#)

[liver, cirrhosis of](#)

[restlessness](#)

[weakness](#)

[weight loss](#)

**Notes on poisoning:**

Experimental ingestion of plant material caused poisoning and death in cattle. Symptoms are similar to poisoning by other members of the genus *Senecio*, with liver damage causing many of the symptoms. Signs included depression, a peculiar sweet odor from the skin, yellowish discoloration of mucous membranes, itchiness, edema, serum oozing from the skin, and liver damage (Clawson 1933).

**References:**

Clawson, A. B. 1933. The American groundsels species of *Senecio* as stock poisoning plants. *Vet. Med. Small Anim. Clin.*, 28: 105-110.

**Horses**

**General symptoms of poisoning:**



[confusion](#)  
[death](#)  
[depression](#)  
[icterus](#)  
[restlessness](#)  
[weakness](#)  
[weight loss](#)

### **Notes on poisoning:**

Ingesting plant material caused a yellowish discoloration of mucous membranes, a sweet odor from the skin, depression, weakness, restless walking and, after 1 or 2 days, insensibility to objects and pushing against obstacles, urine discoloration, and death. All horses that showed definite symptoms died. Liver damage was apparent upon postmortem examination (Clawson 1933).

### **References:**

Clawson, A. B. 1933. The American groundsels species of *Senecio* as stock poisoning plants. Vet. Med. Small Anim. Clin., 28: 105-110.

### **Sheep**

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Date modified: 2009-09-01

[Important Notices](#)



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|---|-------------------|--------------|---------------------------------|--------------------|
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| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: European buckthorn](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

European buckthorn (*Rhamnus cathartica*) is a small naturalized shrub that is found throughout much of eastern Canada and in the Prairie Provinces. The shrub has spines on the branches and trunks. These shrubs commonly grow along fence rows and roadsides and in old fields. In some areas, they are a common undergrowth shrub in woodlands. The bark and fruits contain chemicals that have a strong purgative action that can affect humans. Severe poisoning is rare (Cooper and Johnson 1984, Lampe and McCann 1986).

### References:

- Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.
- Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.
- Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Rhamnus cathartica* L.

Vernacular name(s): European buckthorn

Scientific family name: *Rhamnaceae*

Vernacular family name: buckthorn

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rhamnus cathartica](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.
- Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and

botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba

Nova Scotia

Ontario

Prince Edward Island

Quebec

Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

European buckthorn:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bark

mature fruit

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

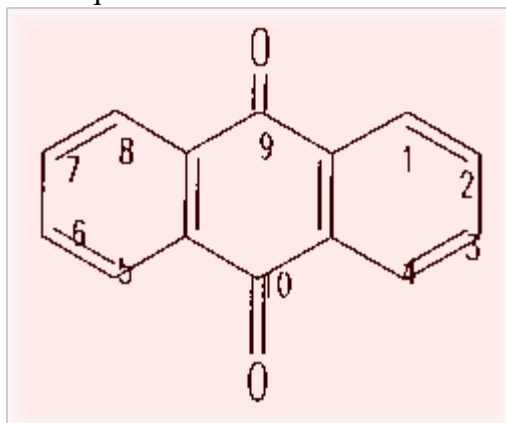
### **Notes on Toxic plant chemicals:**

This plant contains glycosides, which upon hydrolysis yield anthraquinones such as emodin (a trihydroxymethylantraquinone). These chemicals have a purgative action; emodin has been used in

laxative preparations (Cooper and Johnson 1984).

### Toxic plant chemicals:

anthraquinones



emodine

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Humans

#### General symptoms of poisoning:

[abdominal pains](#)

[diarrhea](#)

[gastroenteritis](#)

[hemorrhage](#)

[muscle spasms](#)

[vomiting](#)

#### Notes on poisoning:

European buckthorn is usually ingested by children, who eat the black berries or chew the twigs. Under normal circumstances, the symptoms are usually mild and are limited to transient abdominal pain, vomiting, and diarrhea. Ingesting 20 berries or more can have more serious consequences such as gastrointestinal symptoms, fluid depletion, kidney damage, muscular convulsions, and hemorrhage. Serious cases may result in difficult breathing and collapse.

Treatment includes inducing vomiting, if it has not already occurred, and fluid replacement (Cooper and Johnson 1984, Fuller and McClintock 1985).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: European elder](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

European elder (*Sambucus nigra*) is an outdoor ornamental introduced from Europe. Several cultivars may be available in Canada. This shrub contains cyanogenic glycosides. Swine have been poisoned in Europe, and circumstantial reports of poisoning of cattle and turkeys have been noted. Berries eaten raw can cause nausea and vomiting in humans (Cooper and Johnson 1984). Children should not be allowed to ingest the berries.

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Nomenclature:

Scientific Name: *Sambucus nigra* L.

Vernacular name(s): European elder

Scientific family name: *Caprifoliaceae*

Vernacular family name: honeysuckle

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Sambucus nigra](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

European elder:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The bark, leaves, and berries can cause poisoning in animals. The roots and stems have caused poisoning in humans. Ingesting quantities of uncooked berries can cause nausea (Cooper and Johnson 1984).

### **Toxic parts:**

bark  
leaves  
mature fruit  
roots  
stems

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Tewe, O. O., Iyayi, E. A. 1989. Cyanogenic glycosides. Pages 43-60 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### **Notes on Toxic plant chemicals:**

Two cyanogenic glycosides, sambunigrin and vicianin, occur in black elderberry. Hydrocyanic acid can be released in animals by the action of plant enzymes after ingestion (Tewe and Iyayi 1989).

### **Toxic plant chemicals:**

sambunigrin  
vicianin

### **References:**

Tewe, O. O., Iyayi, E. A. 1989. Cyanogenic glycosides. Pages 43-60 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### **Humans**

#### **General symptoms of poisoning:**

[nausea](#)  
[vomiting](#)

#### **Notes on poisoning:**

Humans have developed nausea and vomiting after ingesting uncooked berries. Cooking destroys the toxin. Children were poisoned when they used the hollow stems of elders as pipes (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

#### **Swine**

#### **General symptoms of poisoning:**

[abdominal pains](#)  
[breathing, rapid](#)  
[death](#)  
[diarrhea](#)  
[heart rate, elevated](#)  
[paralysis, posterior](#)  
[salivation](#)  
[trembling](#)  
[vomiting](#)

#### **Notes on poisoning:**

In one European case, pigs ate young leaves and within a day showed symptoms, including salivation, vomiting, abdominal pain, diarrhea, paralysis, trembling, and unsteadiness. Several pigs died



(Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: European spindle tree](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

European spindle tree (*Euonymus europaeus*) is an ornamental shrub that can grow in the warmer parts of Canada. The shrub has poisoned children as well as goats, horses, and sheep. Children are attracted to the mature fleshy orange fruits, which contain seeds with cardiac glycosides and alkaloids. Children have become quite ill. Fatal poisoning has occurred in two horses after they ingested shoots of this plant (Frohne and Pfander 1983, Cooper and Johnson 1984, Lampe and McCann 1985).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Euonymus europaeus* L.

Vernacular name(s): European spindle tree

Scientific family name: *Celastraceae*

Vernacular family name: staff tree

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Euonymus europaeus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and

botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

European spindletree:

Images: [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The conspicuous fruiting structures of the European spindletree entice children to eat them. The seeds contain toxins that have caused poisoning of children (Frohne and Pfander 1983).

### **Toxic parts:**

bark  
leaves  
seeds

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Notes on Toxic plant chemicals:**

Several cardiac glycosides have been found in the seeds, including evomonoside, whose aglycone is digitoxigenin. Alkaloids also make

up about 0.1% of the seeds, including evonine. The toxicity of the alkaloidal fraction has not been studied. Cardiac glycosides are also found in the leaves and bark (the alkaloid content is too low to be of any consequence) (Frohne and Pfander 1983, Lampe and McCann 1985).

**Toxic plant chemicals:**

evomonoside  
evonine

**References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Goats**

**Horses**

**General symptoms of poisoning:**

[constipation](#)  
[death](#)  
[heart rate, elevated](#)

**Notes on poisoning:**

In one case in Europe, two horses had access to the shoots of European spindle tree and they ingested large quantities of them. The animals suffered paralysis of the digestive tract. The pulse was rapid and the horses died within 4 days. Postmortem examination showed inflammation of the intestines (Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Humans**

**General symptoms of poisoning:**

[convulsions](#)  
[death](#)  
[diarrhea](#)

[hallucination](#)

[vomiting](#)

### **Notes on poisoning:**

Children are attracted to the bright orange fruits, which contain toxic seeds. Symptoms occur 10-12 h after ingestion and include diarrhea, vomiting, stimulation of the heart and, in more severe cases, hallucination and loss of consciousness. In one fatal case, the child had blood-stained diarrhea and convulsions before death (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Sheep**

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: false hellebore](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

False hellebore (*Veratrum viride*) is a native perennial plant that is found in parts of eastern and western Canada. The plant contains several steroidal alkaloids. Jervine was shown to be teratogenic in laboratory animals. Livestock do not often ingest the plant, but cattle, poultry, and sheep, have been poisoned. Some deaths may have occurred. The roots, rhizome, and young shoots are most toxic. Humans have been poisoned after ingesting the plant. Extracts from the plant have been used in cases of hypertension and as an insecticide (Fyles 1920, Dayton 1960, Campbell et al. 1985, Mulligan and Munro 1987, Jaffe et al. 1989).

### References:

- Campbell, M. A., Brown, K. S., Hassell, J. R., Horigan, E. A., Keeler, R. F. 1985. Inhibition of limb chondrogenesis by a *Veratrum* alkaloid: temporal specificity in vivo and in vitro. Can. Dep. Agric. Exp. Farms Bull., 111: 464-470.
- Dayton, W. A. 1960. Notes on western range forbes. U. S. For. Serv. Wash. Agric. Hand., 161. 254 pp.
- Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.
- Jaffe, A. M., Gephardt, D., Courtemanche, L. 1990. Poisoning due to ingestion of *Veratrum viride* (false hellebore). J. Emerg. Med., 8: 161-167.
- Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.
- Long, R. 1981. Some liliaceae of British Columbia. Davidsonia, 12: 85-88.
- Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.
- Underhill, J. E. 1959. A case of hellebore poisoning. Can. Field-Nat., 73: 128-129.

### Nomenclature:

Scientific Name: *Veratrum viride* Ait.

Vernacular name(s): false hellebore

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Veratrum viride](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Alberta  
British Columbia  
Labrador  
New Brunswick  
Northwest Territories  
Quebec  
Yukon Territory

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

false hellebore:

**Images:** [images.google.com](http://images.google.com)

**Notes on Poisonous plant parts:**

The steroidal alkaloids are most abundant in roots, rhizomes, and young shoots. Sheep can apparently eat, with impunity, plants that were frosted in the autumn (Dayton 1960).

**Toxic parts:**

rhizome  
roots  
young shoots

**References:**

Campbell, M. A., Brown, K. S., Hassell, J. R., Horigan, E. A., Keeler, R. F. 1985. Inhibition of limb chondrogenesis by a *Veratrum* alkaloid: temporal specificity in vivo and in vitro. Can. Dep. Agric. Exp. Farms Bull., 111: 464-470.

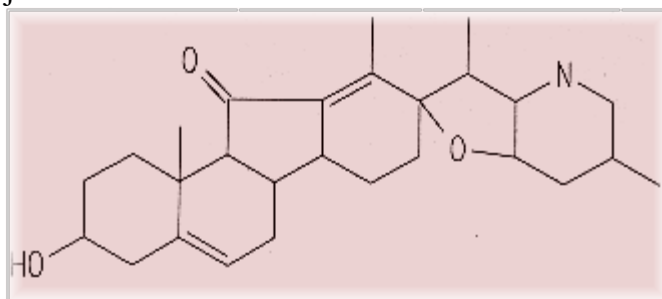
Dayton, W. A. 1960. Notes on western range forbes. U. S. For. Serv. Wash. Agric. Hand., 161. 254 pp.

**Notes on Toxic plant chemicals:**

The steroidal alkaloid jervine has been isolated from false hellebore. This alkaloid can exert teratogenic effects in several animal species. The LD-50 for jervine in two strains of mice was 220 mg/kg and 260 mg/kg. Some strains of mice were resistant to the teratogenic effects of jervine (Campbell et al. 1985). Several other alkaloids have also been isolated. Germidine is an alkaloid that was studied as a possible drug for hypertension (Claus and Tyler 1965).

**Toxic plant chemicals:**

germidine  
jervine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Campbell, M. A., Brown, K. S., Hassell, J. R., Horigan, E. A.,



Keeler, R. F. 1985. Inhibition of limb chondrogenesis by a *Veratrum* alkaloid: temporal specificity in vivo and in vitro. Can. Dep. Agric. Exp. Farms Bull., 111: 464-470.

Claus, E. P., Tyler, V. E. 1965. Pharmacognosy. Lea & Febiger, Philadelphia, Pa., USA. 572 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### **Cattle**

##### **General symptoms of poisoning:**

[abdominal pains](#)  
[blindness, temporary](#)  
[diarrhea](#)  
[heart rate, slow](#)  
[vomiting](#)

##### **Notes on poisoning:**

Cattle generally avoid ingesting the plant, although young animals may ingest it, sometimes with fatal results. As with humans, the plant causes depression in an animal's heart rate, low blood pressure, and vomiting (Fyles 1920, Reynard and Norton 1942).

##### **References:**

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

#### **Humans**

##### **General symptoms of poisoning:**

[blood pressure, low](#)  
[heart rate, slow](#)  
[nausea](#)  
[vomiting](#)

##### **Notes on poisoning:**

Humans have ingested false hellebore, mistaking it for another plant. The symptoms include reduced heart rate, low blood pressure, and vomiting. Other symptoms include blurred vision, cramps, nausea, dizziness, and chills. Atropine is used in initial treatment (Boivin 1948, Underhill 1959, Jaffe et al. 1989). False hellebore was used by West Coast Indians to commit suicide (Long 1981).

## References:

Jaffe, A. M., Gephardt, D., Courtemanche, L. 1990. Poisoning due to ingestion of *Veratrum viride* (false hellebore). J. Emerg. Med., 8: 161-167.

Long, R. 1981. Some liliaceae of British Columbia. Davidsonia, 12: 85-88.

Underhill, J. E. 1959. A case of hellebore poisoning. Can. Field-Nat., 73: 128-129.

## Poultry

## Rodents

## General symptoms of poisoning:

[oligodactylism](#)

## References:

Campbell, M. A., Brown, K. S., Hassell, J. R., Horigan, E. A., Keeler, R. F. 1985. Inhibition of limb chondrogenesis by a *Veratrum* alkaloid: temporal specificity in vivo and in vitro. Can. Dep. Agric. Exp. Farms Bull., 111: 464-470.

## Sheep

## General symptoms of poisoning:

[nausea](#)  
[salivation](#)

## Notes on poisoning:

Sheep are apparently less affected by ingesting false hellebore and can eat the leaves with apparent impunity after the leaves have been killed by frost (Reynard and Norton 1942, Dayton 1960).

## References:

Dayton, W. A. 1960. Notes on western range forbes. U. S. For. Serv. Wash. Agric. Hand., 161. 254 pp.

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

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[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: false ragweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

False ragweed (*Iva xanthifolia*) is a native herb found across southern Canada. The plant can cause dermatitis in sensitive humans after they come in contact with the leaves. Lactating cows that ingest the leaves produce bitter-tasting milk (Muenscher 1975, Mitchell and Rook 1979).

### References:

Muenscher, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

### Nomenclature:

Scientific Name: *Iva xanthifolia* Nutt.

Vernacular name(s): false ragweed

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Iva xanthifolia](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

false ragweed:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

Muenschler, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

### **Notes on Toxic plant chemicals:**

Mitchell and Rook (1979) report that potentially allergenic sesquiterpene lactones have been isolated from some members of the genus *Iva*.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[erythema](#)

### **References:**

Muenscher, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: February daphne](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

February daphne (*Daphne mezereum*) is an ornamental shrub that grows across southern Canada. This shrub and other *Daphne* species are poisonous to humans and animals. The plants contain irritant chemicals that cause pain, burning, and tingling sensations on exposed skin. These sensations are intensified on mucous membranes in the mouth, throat, and stomach after ingesting the fruits. More serious symptoms also occur in humans, including kidney damage, which may lead to death. With the exception of February daphne, the other *Daphne* species and cultivars are found only as ornamental plants in the more southerly and temperate parts of Canada. February daphne is naturalized in several eastern provinces. Horses and swine have been poisoned and have died after ingesting daphne leaves or berries, although poisoning of animals is a rare occurrence. Family pets can be poisoned if they have access to the plants. Several references give additional information (Frohne and Pfander 1983, Cooper and Johnson 1984, Lampe and McCann 1985, Fuller and McClintock 1986).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Daphne mezereum* L.

Vernacular name(s): February daphne

Scientific family name: *Thymelaeaceae*

Vernacular family name: mezereum

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Daphne mezereum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Newfoundland

Nova Scotia

Ontario

Prince Edward Island

Quebec

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

February daphne:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

All the *Daphne* species in this information system have the same toxic chemical found in all parts of the plant. The only part of the plants without mezerein is the fruit pulp. It is the broken seeds that are responsible for symptoms when fruit is chewed. Ingesting one or two of the bitter berries can cause severe poisoning in children. Twelve berries can be fatal to an adult human (Frohne and Pfander 1983, Fuller and McClintock 1986).

**Toxic parts:**

all parts  
bark  
flowers  
mature fruit  
seeds

**References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

**Notes on Toxic plant chemicals:**

Daphnetoxin and mezerein are diterpene alcohols with a daphnane skeleton. Mezerein has cocarcinogenic activity as does the chemically related phorbol esters found in many toxic members of the spurge family (Euphorbiaceae). In mice, daphnetoxin was determined to have an LD-50 of 275 micro g/kg and the mouse ear inflammation unit is 0.2 micro g of mezerein per ear (Frohne and Pfander 1983). The bark of these daphne plants contains a coumarin glycoside that has the aglycone dihydroxycoumarin (Fuller and McClintock 1986).

**Toxic plant chemicals:**

daphnetoxin  
dihydroxycoumarin  
mezerein

**References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.



## **Dogs**

## **Horses**

### **General symptoms of poisoning:**

[abdominal pains](#)

[death](#)

[vomiting](#)

### **Notes on poisoning:**

Horses have been poisoned by the leaves and berries of the *Daphne* species. Abdominal pains, breathing problems, and death occurred. Post-mortem symptoms included inflammation, swelling, and blood-stained contents of the gastrointestinal tract. Experimental feeding produced similar symptoms but did not result in death. Only 100-150 g of the plants, which are bitter, were eaten (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[breathing, labored](#)

[convulsions](#)

[death](#)

[diarrhea](#)

[dysphagia](#)

[gait, staggering](#)

[hoarseness](#)

[kidney failure](#)

[mouth, irritation of](#)

[muscle twitching](#)

[prostration](#)

[temperature, elevated](#)

[thirsty](#)

[vomiting](#)

### **Notes on poisoning:**

Human poisoning by the *Daphne* species can include minor irritation of the mouth region including pain, burning, and tingling. If the plant material is also chewed and ingested, more severe symptoms occur, including bloody diarrhea, abdominal pains, vomiting, and convulsions. In severe cases, prostration, hallucinations, shedding of the lining of the oral and mucous membranes, and renal damage can occur. In one case, a child was

killed in Nova Scotia after ingesting berries (Fyles 1920). Ingestion may lead to muscular twitching and somnolence, which persists for days. Few cases of poisoning actually occur, but the consequences of ingestion can be serious (Frohne and Pfander 1983, Cooper and Johnson 1984, Lampe and McCann 1985, Fuller and McClintock 1985).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Swine**

#### **General symptoms of poisoning:**

[death](#)  
[vomiting](#)

#### **Notes on poisoning:**

A litter of 10-week-old pigs were given daphne berries and they died suddenly. The pigs had vomited before they died. Postmortem examination revealed white, burned patches in the mouth and an intensely inflamed stomach (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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Date modified: 2009-09-01 [Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: fiddleneck](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Fiddleneck (*Amsinckia intermedia*) is an introduced plant found in parts of western Canada. Ingestion can cause severe diseases in horses, swine, and cattle. Hepatic cirrhosis results from ingesting the seeds of the plant. The symptoms are termed walking disease in horses and are known as hard liver disease in swine and cattle. These diseases were present mainly in California and the Pacific Northwest. With the advent of herbicides, the problems have mostly disappeared (Woolsey et al. 1952, Cheeke and Schull 1985).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Kennedy, P. C. 1957. Symposium on poisoning-part 2. Case 16-Tarweed poisoning in swine. J. Am. Vet. Med. Assoc., 130: 305-306.

McCulloch, E. C. 1940. Hepatic cirrhosis of horses, swine and cattle due to the ingestion of seeds of the tarweed, *Amsinckia intermedia*. J. Am. Vet. Med. Assoc., 96: 5-18.

Woolsey, J. H., Jasper, D. E., Cordy, D. R., Christensen, J. F. 1952. Two outbreaks of hepatic cirrhosis in swine in California, with evidence incriminating the tarweed, *Amsinckia intermedia*. Vet. Med. Small Anim. Clin., 47: 55-58.

### Nomenclature:

Scientific Name: *Amsinckia intermedia* Fisch & Mey.

Vernacular name(s): fiddleneck

Scientific family name: *Boraginaceae*

Vernacular family name: borage

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Amsinckia intermedia](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

fiddleneck:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

seeds

### **References:**

McCulloch, E. C. 1940. Hepatic cirrhosis of horses, swine and cattle due to the ingestion of seeds of the tarweed, *Amsinckia intermedia*. J. Am. Vet. Med. Assoc., 96: 5-18.

Woolsey, J. H., Jasper, D. E., Cordy, D. R., Christensen, J. F. 1952.

Two outbreaks of hepatic cirrhosis in swine in California, with evidence incriminating the tarweed, *Amsinckia intermedia*. Vet. Med. Small Anim. Clin., 47: 55-58.

### **Notes on Toxic plant chemicals:**

The pyrrolizidine alkaloids of fiddleneck cause hepatic cirrhosis in cattle, swine, and horses, mainly a result of the presence of the seeds in grain and grain screenings fed to livestock. With modern herbicides, the problem has disappeared (Cheeke and Schull 1985).

### **Toxic plant chemicals:**

echiumine  
intermedine  
lycopsamine

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[abdominal pains](#)  
[death](#)  
[icterus](#)  
[liver, cirrhosis of](#)

#### **References:**

McCulloch, E. C. 1940. Hepatic cirrhosis of horses, swine and cattle due to the ingestion of seeds of the tarweed, *Amsinckia intermedia*. J. Am. Vet. Med. Assoc., 96: 5-18.

### **Horses**

#### **General symptoms of poisoning:**

[death](#)  
[hemoglobinuria](#)  
[icterus](#)  
[liver, cirrhosis of](#)

#### **References:**

McCulloch, E. C. 1940. Hepatic cirrhosis of horses, swine and cattle due to the ingestion of seeds of the tarweed, *Amsinckia intermedia*.

J. Am. Vet. Med. Assoc., 96: 5-18.

## Swine

### General symptoms of poisoning:

[abdomen, distended](#)

[anemia](#)

[appetite, loss of](#)

[ascites](#)

[death](#)

[icterus](#)

[liver, cirrhosis of](#)

[prostration](#)

[weakness](#)

[weight gain, reduced](#)

[weight loss](#)

### References:

Kennedy, P. C. 1957. Symposium on poisoning-part 2. Case 16-Tarweed poisoning in swine. J. Am. Vet. Med. Assoc., 130: 305-306.

McCulloch, E. C. 1940. Hepatic cirrhosis of horses, swine and cattle due to the ingestion of seeds of the tarweed, *Amsinckia intermedia*. J. Am. Vet. Med. Assoc., 96: 5-18.

Woolsey, J. H., Jasper, D. E., Cordy, D. R., Christensen, J. F. 1952. Two outbreaks of hepatic cirrhosis in swine in California, with evidence incriminating the tarweed, *Amsinckia intermedia*. Vet. Med. Small Anim. Clin., 47: 55-58.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: field horsetail](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Field horsetail (*Equisetum arvense*) is a native plant growing across Canada. This plant contains thiaminase which causes thiamine deficiency in horses. Ruminants are not generally affected by problems of thiamine deficiency because it is made in the rumen. However, some cattle were reported to have symptoms. In Canada, horses have been poisoned by ingesting field horsetail (Henderson et al. 1952, Cheeke and Schull 1985).

### References:

[Cody, W. J.](#), Wagner, V. 1981. The biology of Canadian weeds. 49. *Equisetum arvense* L., 61: 123-133.

Henderson, J. A., Evans, E. V., McIntosh, R. A. 1951. The antithiamine action to *Equisetum*. J. Am. Vet. Med. Assoc., 120: 375-378.

### Nomenclature:

Scientific Name: *Equisetum arvense* L.

Vernacular name(s): field horsetail

Scientific family name: *Equisetaceae*

Vernacular family name: horsetail

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Equisetum arvense](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

field horsetail:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The horsetails have separate fertile and sterile fronds. Field horsetail has a fertile frond that is flesh-colored and appears before the green sterile frond.

### **Toxic parts:**

leaves  
stems

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and



poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Notes on Toxic plant chemicals:**

Thiaminase is an enzyme that splits thiamine, a B vitamin, making it inactive. Thiamine is involved in decarboxylation reactions in animal bodies. Deficiency of thiamine leads to accumulation of pyruvate in the blood, with a resulting impairment in energy metabolism and cellular shortage of ATP. Hay that contains horsetail at a level of 20% or more may produce symptoms of thiamine deficiency in horses in 2-5 weeks (Cheeke and Schull 1985).

### **Toxic plant chemicals:**

thiaminase

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

### **Horses**

### **Sheep**

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[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: five-hooked bassia](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Five-hooked bassia (*Bassia hyssopifolia*) is a naturalized herb found in southern parts of western Canada. The plant is suspected of poisoning livestock. James et al. (1976) report experimental poisoning of sheep after they were fed macerated above-ground parts of the plant.

### References:

James, L. F., Williams, M. C., Bleak, A. T. 1976. Toxicity of *Bassia hyssopifolia* to sheep. *J. Range Manage.*, 29: 284-285.

### Nomenclature:

Scientific Name: *Bassia hyssopifolia* (Pall.) Ktze.

Vernacular name(s): five-hooked bassia

Scientific family name: *Chenopodiaceae*

Vernacular family name: goosefoot

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Bassia hyssopifolia](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

five-hooked bassia:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

flowers  
leaves

### **References:**

James, L. F., Williams, M. C., Bleak, A. T. 1976. Toxicity of *Bassia hyssopifolia* to sheep. J. Range Manage., 29: 284-285.

### **Toxic plant chemicals:**

oxalate

### **References:**

James, L. F., Williams, M. C., Bleak, A. T. 1976. Toxicity of *Bassia hyssopifolia* to sheep. J. Range Manage., 29: 284-285.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Sheep**

### **General symptoms of poisoning:**

[coma](#)  
[death](#)

[gait, unsteady](#)  
[incoordination](#)  
[tetany](#)  
[weakness](#)

**Notes on poisoning:**

In experimental feeding of sheep, five-hooked bassia caused symptoms similar to poisoning by *Kochia scoparia*. In addition to the symptoms listed, hemorrhaging on the rumen surface and enlarged kidneys occurred. Calcium concentrations in the serum of five sheep dropped from an average of 10.9 mg/mL to 3.6 mg/mL. Signs of photosensitization were also noted in some of the sheep (James et al. 1976).

**References:**

James, L. F., Williams, M. C., Bleak, A. T. 1976. Toxicity of *Bassia hyssopifolia* to sheep. J. Range Manage., 29: 284-285.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: flamingo lily](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Flamingo lily (*Anthurium andraeanum*) is an indoor ornamental plant that produces striking flowers. Ingestion can cause painful irritation of the mouth and throat. Other species of the genus *Anthurium* may be cultivated in Canada, and all these plants should be regarded as containing calcium oxalate crystals, an irritant.

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Anthurium andraeanum* Lind.

Vernacular name(s): flamingo lily

Scientific family name: *Araceae*

Vernacular family name: arum

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

flamingo lily:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Notes on Toxic plant chemicals:**

Flamingo lily (*Anthurium andraeanum*) contains calcium oxalate raphide crystals, which cause painful swelling in the mouth and throat upon ingestion. These crystals readily penetrate mucous membranes, leading to irritation (Lampe and McCann 1985). Unidentified toxic proteins are also contained in the plants (Fuller and McClintock 1986).

### **Toxic plant chemicals:**

oxalate

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA.

432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[blistering](#)  
[dysphagia](#)  
[hoarseness](#)

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: fly honeysuckle](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Fly honeysuckle (*Lonicera xylosteum*) is cultivated in southwestern Quebec and southern Ontario. This ornamental shrub has been implicated in cases of poisoning of children in Europe. Recent literature indicates that cases of poisoning are rare, and the symptoms are considered mild. Experimental poisoning of rabbits has caused mild symptoms. Injecting fruit extracts at high doses has caused sickness and death in mice. Ingesting a large number of berries (ca. 30) may cause abdominal pain and vomiting in children (Frohne and Pfander 1983). Additional species of cultivated honeysuckle have also been implicated in cases of human poisoning. Woodbine (*Lonicera periclymenum*) may be poisonous. This climbing honeysuckle is occasionally planted. See the general notes under Tartarian honeysuckle, ([Lonicera tatarica](#)).

### References:

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Lonicera xylosteum* L.

Vernacular name(s): fly honeysuckle

Scientific family name: *Caprifoliaceae*

Vernacular family name: honeysuckle

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lonicera xylosteum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.



Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

fly honeysuckle:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The berries have been implicated in cases of toxicity in Europe. In North America no cases of poisoning occurred after children ingested the berries (Lampe and McCann 1985).

### **Toxic parts:**

mature fruit

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Notes on Toxic plant chemicals:**

The toxin is unknown, but saponins are thought to be responsible for the cases of poisoning. Traces of alkaloids were also found (Frohne

and Pfander 1983).

**Toxic plant chemicals:**

unknown chemical

**References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Humans**

**General symptoms of poisoning:**

[abdominal pains](#)

[diarrhea](#)

[vomiting](#)

**Notes on poisoning:**

Symptoms of ingestion include abdominal pain, diarrhea, and vomiting. More severe symptoms have been listed in early European literature, but severe toxicity has not been conclusively documented (Frohne and Pfander 1983).

**References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

**Rabbits**

**General symptoms of poisoning:**

[diarrhea](#)

**Notes on poisoning:**

Experimental feeding of berries (dry weight at 25 g/kg of body weight) to rabbits caused diarrhea and lack of movement within 24 h (Frohne and Pfander 1983).

**References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

**Rodents**

**General symptoms of poisoning:**

[death](#)  
[drowsiness](#)

**Notes on poisoning:**

Mice experimentally injected with berry extract (dry weight at 20-40 g/kg of body weight) experienced brief excitation, followed by drowsiness, abdominal spasms, and equilibrium and respiratory problems. Death sometimes followed in 10 min to several hours. A connection was made between saponin content and toxicity (Frohne and Pfander 1983).

**References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: foxglove](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Foxglove (*Digitalis purpurea*) is an attractive biennial plant that is cultivated in Canada and is naturalized in several provinces. Upon ingestion, this plant can cause toxic reactions that lead to severe sickness and death in animals and in humans. Several important pharmaceutical drugs such as digitalis and digoxin are derived from this plant. The chemicals increase the force of contraction of the heart muscle and are therefore used in cases of heart congestion. Foxglove (*Digitalis purpurea*) is a naturalized herb found in eastern Canada and British Columbia. It is also a common outdoor ornamental. All classes of livestock are susceptible to poisoning by foxglove. However, because of the unpalatable nature of the plant, poisoning is infrequent, although when it does occur it is often severe and dramatic, frequently resulting in death. Human poisoning occurs rarely. However, poisoning was reported in the children who ate the flowers or drank water from vases. Accidentally including foxglove leaves in tea has led to poisoning and death. Cardiac glycosides are commonly described drugs that have a low margin of safety. Slight overdoses of prescribed medicine can cause symptoms of toxicity (Cooper and Johnson 1984, Cheeke and Schull 1985, Joubert 1989).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Joubert, J. P. 1989. Cardiac glycosides. Pages 61-97 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Parker, W. H. 1951. Foxglove (*Digitalis purpurea*) poisoning in turkeys. Vet. Rec., 63: 416.

Thomas, D. L., Quick, M. P., Morgan, R. P. 1987. Suspected foxglove (*Digitalis purpurea*) poisoning in a dairy cow. Vet. Rec., 120: 300-301.

**Nomenclature:**

Scientific Name: *Digitalis purpurea* L.

Vernacular name(s): foxglove

Scientific family name: *Scrophulariaceae*

Vernacular family name: fringwort

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Digitalis purpurea](#)

**References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

**Geographic Information**

British Columbia

Newfoundland

Nova Scotia

Ontario

**References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## **Image or illustration**

foxglove:

**Images:** [images.google.com](http://images.google.com)

## **Notes on Poisonous plant parts:**

The entire plant contains toxic compounds. The leaves and seeds are used to produce digoxin and other cardenolides for pharmaceutical use. The chemicals do not lose their toxicity by drying, storage, boiling or incorporation in hay. The plants are unpalatable and are seldom eaten by animals (Cooper and Johnson 1984, Joubert 1989).

## **Toxic parts:**

all parts  
flowers  
leaves  
seeds  
stems

## **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

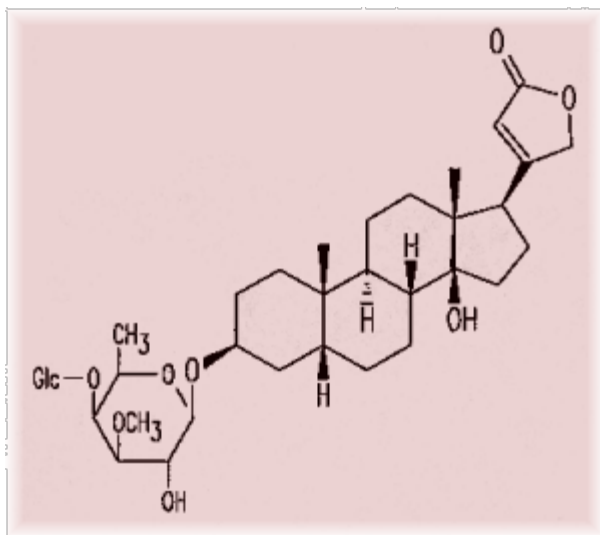
Joubert, J. P. 1989. Cardiac glycosides. Pages 61-97 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

## **Notes on Toxic plant chemicals:**

Digitoxin is one of several cardiac glycosides found in foxglove and is considered the most toxic of these chemicals. The toxins are split by hydrolysis into a sugar and an aglycone (nonsugar compound). The aglycones have a direct effect on the muscles to the heart (Joubert 1989).

## **Toxic plant chemicals:**

digitoxin



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Joubert, J. P. 1989. Cardiac glycosides. Pages 61-97 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Cats

#### Cattle

### General symptoms of poisoning:

[death](#)  
[dyspnea](#)  
[lungs, congestion of](#)

### Notes on poisoning:

Dairy cattle have become poisoned after ingesting foxglove. Postmortem examination showed consolidation of the apical lobes of both lungs, with marked emphysema and bullae formation in the diaphragmatic lobes. Duodenal and jejunal mucosa were extremely congested and hemorrhagic. Some cattle recovered after treatment, whereas others took several days. One cow died 2 days after ingesting foxglove (Thomas et al. 1987).

### References:

Thomas, D. L., Quick, M. P., Morgan, R. P. 1987. Suspected foxglove (*Digitalis purpurea*) poisoning in a dairy cow. Vet. Rec.,

120: 300-301.

## **Dogs**

## **Goats**

## **Horses**

## **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[diarrhea](#)

[nausea](#)

### **Notes on poisoning:**

Digitalis poisoning toxicity has a variable latent period depending on the quantity ingested. Gross disturbances in heartbeat and pulse are common. Most cases of human poisoning result from slight overdoses of prescribed drugs that contain digoxin or other related chemicals. Smith et al. (1982) describe the symptoms of digoxin and digitoxin toxicity, including nausea and severe vomiting. Many people develop hyperkalemia. Advanced cardiac rhythm disturbances are common, along with tachycardia and ventricular fibrillation. Treating patients with purified Fab fragments of digoxin-specific antibodies produces an initial favorable response and should lead to safe, effective reversal of life-threatening digitalis intoxication. Accidental ingestion of foxglove has occurred when the leaves were used in tea or when flowers were ingested (Cooper and Johnson 1984).

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

## **Poultry**

## **Sheep**

## **Swine**

### **General symptoms of poisoning:**

[abdominal pains](#)

[convulsions](#)

[death](#)

[diarrhea](#)

### **Notes on poisoning:**

General symptoms of foxglove poisoning for all types of animals include diarrhea, abdominal pain, irregular pulse, tremors, and



convulsions. In severe cases, death occurs. Postmortem examination of pigs showed gastrointestinal inflammation, punctiform necrosis of the border of the spleen, and fatty degeneration of some nerve fibers in the heart. The presence of digitoxin in the body tissues confirms foxglove poisoning in animals (Cooper and Johnson 1984, Joubert 1989).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Turkeys**

#### **General symptoms of poisoning:**

[appetite, loss of](#)  
[convulsions](#)  
[death](#)  
[drowsiness](#)  
[pupil dilation](#)

#### **Notes on poisoning:**

Several turkeys died after ingesting foxglove leaves. Several turkeys slowly recovered. The crops were surgically removed from affected birds, a procedure which speeded up recovery time (Parker 1951).

### **References:**

Parker, W. H. 1951. Foxglove (*Digitalis purpurea*) poisoning in turkeys. Vet. Rec., 63: 416.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: garden-sorrel](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Garden-sorrel (*Rumex acetosa*) is a naturalized herb found across southern Canada. It is occasionally cultivated as a garden green. Ingesting large quantities of the plant caused toxicity in sheep and cattle in other countries. Humans should restrict their intake of the leaves of this plant because they contain oxalate crystals (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Rumex acetosa* L.

Vernacular name(s): garden-sorrel

Scientific family name: *Polygonaceae*

Vernacular family name: knotweed

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rumex acetosa](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

garden-sorrel:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Ingesting large amounts of the aboveground portion of garden-sorrel can cause poisoning (Cooper and Johnson 1984).

### **Toxic parts:**

leaves  
stems

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Notes on Toxic plant chemicals:**

Oxalates are considered the primary toxin. However, under certain

circumstances, nitrates may accumulate to toxic levels. In recorded cases of poisoning, the symptoms were consistent with those of oxalate poisoning (Cooper and Johnson 1984).

### **Toxic plant chemicals:**

oxalate

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[kidney failure](#)

#### **Notes on poisoning:**

Reports of poisoning in cattle are inconsistent. Lactating cows that ingested large quantities of garden-sorrel showed symptoms similar to those of milk fever. Treatment with calcium had transient effects because of subsequent kidney failure (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Sheep**

#### **General symptoms of poisoning:**

[coma](#)

[death](#)

[incoordination](#)

[mouth, frothing of](#)

[pupil dilation](#)

[recumbency](#)

#### **Notes on poisoning:**

Ingesting large amounts of garden-sorrel caused toxicity in sheep in Britain. Symptoms included incoordination, falling, then inability to rise, dilation of the pupils, coma, and death (in five sheep). In lactating ewes, the initial signs resembled milk fever, but favorable response to calcium injection was transient because of kidney

failure. No cases of poisoning from this plant have been reported in North America (Kingsbury 1964, Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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## [Notes on poisoning: garland daphne](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Garland daphne (*Daphne cneorum*) is an ornamental shrub found in the warmest parts of Canada. This shrub contains the same toxins as the other *Daphne* spp. listed in this information system. It is capable of causing poisoning in humans and any animals that might ingest it, such as family pets. See additional information under general notes for [Daphne mezereum](#).

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Daphne cneorum* L.

Vernacular name(s): garland daphne

Scientific family name: *Thymelaeaceae*

Vernacular family name: mezereum

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

garland daphne:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
flowers  
leaves  
mature fruit  
seeds

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Toxic plant chemicals:**

daphnetoxin  
dihydroxycoumarin  
mezeroin

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cats**

**Dogs**

**Humans**

**General symptoms of poisoning:**

[abdominal pains](#)

[diarrhea](#)

[kidney, congestion of](#)

[mouth, irritation of](#)

[salivation](#)

[thirsty](#)

**References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)





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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: garlic](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Human allergy to garlic dust has been documented by Lybarger et al. 1982. Ingesting garlic leaves can also cause allergic reactions.

### References:

Lybarger, J. A., Gallagher, J. S., Pulver, D. W., Litwin, A., Brooks, S., Bernstein, I. L. 1982. Occupational asthma induced by inhalation and ingestion of garlic. *J. All. Clin. Immunol.*, 69: 448-454.

### Nomenclature:

Scientific Name: *Allium sativum* L.

Vernacular name(s): garlic

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Allium sativum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal,

Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

garlic:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bulb - dust of  
bulbs

### **References:**

Lybarger, J. A., Gallagher, J. S., Pulver, D. W., Litwin, A., Brooks, S., Bernstein, I. L. 1982. Occupational asthma induced by inhalation and ingestion of garlic. J. All. Clin. Immunol., 69: 448-454.

### **Toxic plant chemicals:**

S-methyl-L-cysteine sulfoxide (SMCO)

### **References:**

Benevenga, N. J., Case, G. L., Steele, R. D. 1989. Occurrence and metabolism of s-methyl-l-cysteine and s-methyl-l-cysteine sulfoxide in plants and their toxicity and metabolism in animals. Pages 203-228 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[dyspnea](#)  
[wheezing](#)

## References:

Lybarger, J. A., Gallagher, J. S., Pulver, D. W., Litwin, A., Brooks, S., Bernstein, I. L. 1982. Occupational asthma induced by inhalation and ingestion of garlic. J. All. Clin. Immunol., 69: 448-454.

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## [Notes on poisoning: gas plant](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Gas plant (*Dictamnus albus*) has caused phytophotodermatitis in humans. In one case in Ottawa, a gardener suffered recurring skin eruptions for several summers. The original diagnosis was poison-ivy, but subsequent testing proved that the gas plant was causing the skin reactions. The plant juices are absorbed by the skin and, in the presence of long-wave ultraviolet light, cell damage occurs. Once this cause is recognized, careful avoidance of contact with the gas plant prevents further problems (Henderson and DesGroseilliers 1984). This is an uncommon and colorful plant found in Canadian herbaceous borders.

### References:

Henderson, J. A., DesGroseilliers, J.-P. 1984. Gas plant (*Dictamnus albus*) phytophotodermatitis simulating poison ivy. Can. Med. Assoc. J., 130: 889-891.

### Nomenclature:

Scientific Name: *Dictamnus albus* L.

Vernacular name(s): gas plant

Scientific family name: *Rutaceae*

Vernacular family name: rue

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Dictamnus albus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

gas plant:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Exposure to the plant juices is required, which occurs when weeding around the plant or cutting the flowers (Henderson and DesGroseilliers 1984).

### **Toxic parts:**

plant juices

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Henderson, J. A., DesGroseilliers, J.-P. 1984. Gas plant (*Dictamnus albus*) phytophotodermatitis simulating poison ivy. Can. Med. Assoc. J., 130: 889-891.

### **Notes on Toxic plant chemicals:**

Furocoumarins, which are derived from psoralen, are found in several of the plants that cause phytophotodermatitis. These compounds are primary photodynamic agents that absorb long-wave ultraviolet light at the surface of the skin and then cause cell damage (Henderson and DesGroseilliers 1984, Cheeke and Schull

1985).

**Toxic plant chemicals:**

furocoumarin

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Henderson, J. A., DesGroseilliers, J.-P. 1984. Gas plant (*Dictamnus albus*) phytophotodermatitis simulating poison ivy. Can. Med. Assoc. J., 130: 889-891.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Humans**

**General symptoms of poisoning:**

[blistering](#)  
[erythema](#)

**References:**

Henderson, J. A., DesGroseilliers, J.-P. 1984. Gas plant (*Dictamnus albus*) phytophotodermatitis simulating poison ivy. Can. Med. Assoc. J., 130: 889-891.

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Date modified: 2009-09-01 [Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: giant dumbcane](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Giant dumbcane (*Dieffenbachia amoena*) is an indoor ornamental plant. Experimental work on rodents proved the toxicity of leaf and stem tissue from giant dumbcane. Death occurred after administration of 3.0 g of plant extract in 10.0 mL of liquid per 100 g of body weight (Der Marderosian et al. 1976).

### References:

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

### Nomenclature:

Scientific Name: *Dieffenbachia amoena* Gentil

Vernacular name(s): giant dumbcane

Scientific family name: *Araceae*

Vernacular family name: arum

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

giant dumbcane:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

### **Toxic plant chemicals:**

oxalate

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Rodents**

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|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: giant hogweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Giant hogweed (*Heracleum mantegazzianum*) is naturalized in south central Ontario. It has caused photosensitization in children after exposure to the plant followed by sunlight (Morton 1975). This plant has also been introduced into New York State, where children have also contracted dermatitis from it (Gunby 1980).

### References:

Anon. 1970. The giant hogweed. Lancet, 2: 32.

Drever, J. C., Hunter, J. A. 1970. Hazards of giant hogweed. Br. Med. J., 3: 109.

Gunby, P. 1980. Keep away from that 'tree', folks! J. Am. Med. Assoc., 244: 2596.

Morton, J. K. 1975. The giant cow parsnip, *Heracleum mantegazzianum* Umbelliferae, in Canada. Can. Field-Nat., 89: 183-184.

### Nomenclature:

Scientific Name: *Heracleum mantegazzianum* Somm. & Levier

Vernacular name(s): giant hogweed

Scientific family name: *Umbelliferae*

Vernacular family name: parsley

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Heracleum mantegazzianum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ.,

Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

giant hogweed:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
plant juices  
stems

### **References:**

Anon. 1970. The giant hogweed. Lancet, 2: 32.

Drever, J. C., Hunter, J. A. 1970. Hazards of giant hogweed. Br. Med. J., 3: 109.

Gunby, P. 1980. Keep away from that 'tree', folks! J. Am. Med. Assoc., 244: 2596.

Morton, J. K. 1975. The giant cow parsnip, *Heracleum mantegazzianum* Umbelliferae, in Canada. Can. Field-Nat., 89: 183-184.

### **Notes on Toxic plant chemicals:**

Giant hogweed contains furocoumarins (psoralens), which make

human skin hypersensitive to sunlight, causing cellular damage at the surface. They absorb long-wave ultraviolet light and become photodynamic (Cooper and Johnson 1984).

**Toxic plant chemicals:**

furocoumarin

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Drever, J. C., Hunter, J. A. 1970. Hazards of giant hogweed. Br. Med. J., 3: 109.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Humans**

**General symptoms of poisoning:**

[blistering](#)  
[erythema](#)  
[skin, brown pigment of](#)

**Notes on poisoning:**

Symptoms of phytophotosensitization include serious and extensive weeping blisters. The lesions often occur in a line where the person has brushed aside the stems. The bullae can be massive and irritating, and brown pigmentation may remain for years after healing (Morton 1975, Gunby 1980).

**References:**

Anon. 1970. The giant hogweed. Lancet, 2: 32.

Drever, J. C., Hunter, J. A. 1970. Hazards of giant hogweed. Br. Med. J., 3: 109.

Gunby, P. 1980. Keep away from that 'tree', folks! J. Am. Med. Assoc., 244: 2596.

Morton, J. K. 1975. The giant cow parsnip, *Heracleum mantegazzianum* Umbelliferae, in Canada. Can. Field-Nat., 89: 183-184.

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| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: glory lily](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Glory lily (*Gloriosa superba*) is a rarely grown indoor ornamental vine best suited to greenhouses. Ingesting the tubers causes severe poisoning in humans. The plant contains two alkaloids, including colchicine, which cause severe gastroenteritis, vomiting, and possible unconsciousness. Severe hair loss is a consistent symptom of colchicine poisoning. Complete recovery is slow (Gooneratne 1966, Angunawela and Fernando 1971, Lampe and McCann 1985).

### References:

Angunawela, R. M., Fernando, H. A. 1971. Acute ascending polyneuropathy and dermatitis following poisoning by tubers of *Gloriosa superba*. Ceylon Med. J., 16: 233-235.

Gooneratne, B. W. 1966. Massive generalized alopecia after poisoning by *Gloriosa superba*. Br. Med. J., 1: 1023-1024.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Gloriosa superba* L.

Vernacular name(s): glory lily

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Gloriosa superba](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques

des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

glory lily:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

tubers

### **References:**

Angunawela, R. M., Fernando, H. A. 1971. Acute ascending polyneuropathy and dermatitis following poisoning by tubers of *Gloriosa superba*. Ceylon Med. J., 16: 233-235.

Gooneratne, B. W. 1966. Massive generalized alopecia after poisoning by *Gloriosa superba*. Br. Med. J., 1: 1023-1024.

### **Notes on Toxic plant chemicals:**

Two alkaloids, colchicine and gloriosine, are found in the tubers of glory lily. In one case, a young women ingested 125 g of tubers containing 0.3% colchicine. She ingested the equivalent of 350 mg of colchicine and within 2 h she was vomiting, becoming unconscious by the next day (Gooneratne 1966).

### **Toxic plant chemicals:**

colchicine  
gloriosine

**References:**

Angunawela, R. M., Fernando, H. A. 1971. Acute ascending polyneuropathy and dermatitis following poisoning by tubers of *Gloriosa superba*. Ceylon Med. J., 16: 233-235.

Gooneratne, B. W. 1966. Massive generalized alopecia after poisoning by *Gloriosa superba*. Br. Med. J., 1: 1023-1024.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Humans**

**General symptoms of poisoning:**

[alopecia](#)  
[dehydration](#)  
[diarrhea](#)  
[hemoglobinuria](#)  
[unconsciousness](#)  
[vomiting](#)  
[weakness](#)

**Notes on poisoning:**

Ingesting the tubers causes severe vomiting, abdominal pain, severe and bloody diarrhea, vaginal bleeding, weakness, and retention of urine and waste. Swelling of the lower or upper limbs may occur. Partial to complete hair loss occurs, sometimes on all parts of the body. Recover is slow, because colchicine is slowly secreted from the system. Treatment includes fluid retention, monitoring of renal function and blood pressure, and treatment for diarrhea (Gooneratne 1966, Angunawela and Fernando 1971, Lampe and McCann 1985).

**References:**

Angunawela, R. M., Fernando, H. A. 1971. Acute ascending polyneuropathy and dermatitis following poisoning by tubers of *Gloriosa superba*. Ceylon Med. J., 16: 233-235.

Gooneratne, B. W. 1966. Massive generalized alopecia after poisoning by *Gloriosa superba*. Br. Med. J., 1: 1023-1024.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: golden-bean](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Golden-bean (*Thermopsis rhombifolia*) is a native plant that is found in the southern part of western Canada. This plant has been suspected since the late 1800s to be poisonous to cattle and horses, but conclusive evidence is lacking in the literature. The related plant, poison-bean (*Thermopsis montana*), causes poisoning in cattle. Poison-bean contains several quinolizidine alkaloids, and similar chemicals may be found in golden-bean. Ingesting seeds of golden-bean was suspected in a case of poisoning of a child in western Canada. Until more definitive studies appear in the literature, the plant is included in this Information System because of its potential for poisoning (Kingsbury 1964, Keeler et al. 1986).

### References:

Keeler, R. F., Johnson, A. E., Chase, R. L. 1986. Toxicity of *Thermopsis montana* in cattle. *Cornell Vet.*, 76: 115-127.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Thermopsis rhombifolia* (Nutt.) Richards.

Vernacular name(s): golden-bean

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Thermopsis rhombifolia](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ.,

Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

golden-bean:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
seeds

### **References:**

Keeler, R. F., Johnson, A. E., Chase, R. L. 1986. Toxicity of *Thermopsis montana* in cattle. Cornell Vet., 76: 115-127.

### **Notes on Toxic plant chemicals:**

The chemicals listed here are found in the closely related poison-bean (*Thermopsis montana*), although similar chemicals are found in golden-bean (Keeler et al. 1986). Some of these chemicals are found in other members of the pea family, including anagryne, which causes teratogenic effects in cattle that eat lupines containing this chemical.

### **Toxic plant chemicals:**

anagryne  
cytisine  
N-methylcytisine  
thermopsine

**References:**

Keeler, R. F., Johnson, A. E., Chase, R. L. 1986. Toxicity of *Thermopsis montana* in cattle. *Cornell Vet.*, 76: 115-127.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[appetite, loss of](#)  
[death](#)  
[depression](#)

**References:**

Keeler, R. F., Johnson, A. E., Chase, R. L. 1986. Toxicity of *Thermopsis montana* in cattle. *Cornell Vet.*, 76: 115-127.

**Horses**

**Humans**

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: golden-chain](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Golden-chain (*Laburnum anagyroides*) is an outdoor ornamental that survives only in southwestern Ontario and coastal British Columbia. This plant contains cytisine, an alkaloid, which has caused poisoning and death in cattle, dogs, horses, swine, and humans after twigs, fruit pods, and seeds were ingested. Most of the cases of poisoning are found in European literature. Children and family pets should be prevented from ingesting the pods or seeds (Cooper and Johnson 1984, Lampe and McCann 1985, Fuller and McClintock 1986).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Laburnum anagyroides* Medic.

Vernacular name(s): golden-chain

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Laburnum anagyroides](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

golden-chain:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of the plant contain the alkaloid cytisine, but the bark and seeds have the highest amount of the chemical. The leaves become less toxic as the fruit pods develop, which become more toxic (Cooper and Johnson 1984).

### **Toxic parts:**

all parts  
bark  
leaves  
seeds

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Toxic plant chemicals:**

cytisine

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[death](#)

[gait, unsteady](#)

[muscle spasms](#)

[recumbency](#)

#### **Notes on poisoning:**

Ingesting twigs and pods of golden-chain have produced toxic symptoms including stiff, unsteady gait, violent tremors, recumbency, and death. Milk yield has been reduced, and large yellow clots were found in the milk (Cooper and Johnson 1984).

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Dogs**

#### **General symptoms of poisoning:**

[convulsions](#)

[death](#)

#### **Notes on poisoning:**

Dogs that were poisoned experienced convulsions and died after chewing golden-chain sticks (Cooper and Johnson 1984).

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Horses**

### **General symptoms of poisoning:**

[abdominal pains](#)

[coma](#)

[death](#)

[incoordination](#)

[muscle spasms](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[confusion](#)

[death](#)

[dizziness](#)

[drowsiness](#)

[headache](#)

[mouth, irritation of](#)

[nausea](#)

[temperature, elevated](#)

[vomiting](#)

### **Notes on poisoning:**

Most cases of human poisoning occur when children eat the pods or seeds by mistake. Symptoms develop rapidly within half an hour because cytisine is rapidly absorbed through mucous membranes of the mouth, stomach, and intestine. Nausea, vomiting, pupil dilation, weakness, breathing difficulty, dizziness, and muscular incoordination can result. Ingesting large quantities can be fatal. In one case, a man ingested 23 pods of golden-chain and died. Toxicological analysis showed that 35-50 mg of cytisine had been absorbed (Cooper and Johnson 1984, Fuller and McClintock 1986).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Swine**

### **General symptoms of poisoning:**

[diarrhea](#)



## References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: golden-trumpet](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Golden-trumpet (*Allamanda cathartica*) is an indoor ornamental vine that is suited to greenhouses. It is considered poisonous, but firm evidence is lacking. The plant was once used as a cathartic. Ingesting the fruits may cause upset stomach (Kingsbury 1964; Hardin and Arena 1969).

There is a case of a young boy who was sucking the end of the stem of this plant. He subsequently became nauseated, and developed a high temperature and swollen lips. Some individuals develop a rash from the plant sap (Morton 1962).

### References:

Hardin, J. W., Arena, J. M. 1969. Human poisoning from native and cultivated plants. Duke University Press, Durham, N.C., USA. 167 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Morton, J. F. 1962. Ornamental plants with toxic and or irritant properties. II. Proc. Fla. State Hort. Soc., 75: 484-491.

### Nomenclature:

Scientific Name: *Allamanda cathartica* L.

Vernacular name(s): golden-trumpet

Scientific family name: *Apocynaceae*

Vernacular family name: dogbane

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Allamanda cathartica](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

golden-trumpet:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

This plant has an unidentified toxin in the fruits and in the cell sap of the stem and leaves (Hardin and Arena 1969). The plant is used only as an indoor ornamental in Canada, most likely found in greenhouses because it is a large climbing vine.

### **Toxic parts:**

mature fruit  
plant juices

### **References:**

Hardin, J. W., Arena, J. M. 1969. Human poisoning from native and cultivated plants. Duke University Press, Durham, N.C., USA. 167 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[nausea](#)

[stomach cramps](#)

[temperature, elevated](#)

[thirsty](#)

### **References:**

Hardin, J. W., Arena, J. M. 1969. Human poisoning from native and cultivated plants. Duke University Press, Durham, N.C., USA. 167 pp.

Morton, J. F. 1962. Ornamental plants with toxic and or irritant properties. II. Proc. Fla. State Hort. Soc., 75: 484-491.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: grass pea](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Grass pea (*Lathyrus sativa*) has been used as a food and forage crop in Europe and Asia, where ingesting the seeds for 3-6 months can cause neurolathyrism, a syndrome characterized by muscular rigidity, weakness, and paralysis of the leg muscles. In severe cases, victims may be reduced to crawling. Young men between 20 and 30 years old are primarily affected. Livestock may also develop paralysis if they ingest grass pea for a long time. Neurolathyrism still occurs in India, where grass pea is used as flour (Cooper and Johnson 1984, Roy and Spencer 1989). Poisoning from grass pea is unlikely in Canada. However, some other *Lathyrus* species that occur in Canada may also contain BOAA.

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Liener, I. E. 1989. Antinutritional factors. Pages 339-382 in Matthews, R. H., ed. Legumes: chemistry, technology, and human nutrition. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

Roy, D. N., Spencer, P. S. 1989. Lathyrogens. Pages 169-201 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

Selye, H. 1957. Lathyrism. Rev. Can. Biol., 16: 1-82.

### Nomenclature:

Scientific Name: *Lathyrus sativus* L.

Vernacular name(s): grass pea

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lathyrus sativus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

grass pea:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

mature fruit  
seeds

### **References:**

Roy, D. N., Spencer, P. S. 1989. Lathyrogens. Pages 169-201 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

### **Notes on Toxic plant chemicals:**

BOAA (beta-N-oxalylamino-L-alanine) is generally regarded as the cause of neurolathyrism, although the exact nomenclature is still under study. The concentration of BOAA in the seed varies from

0.1 to 2.5%. This variation may help explain the conflicting reports of toxicity (Roy and Spencer 1989).

**Toxic plant chemicals:**

beta-N-oxalylamino-L-alanine

**References:**

Roy, D. N., Spencer, P. S. 1989. Lathyrogens. Pages 169-201 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Humans**

**General symptoms of poisoning:**

[paralysis](#)

**References:**

Selye, H. 1957. Lathyrism. Rev. Can. Biol., 16: 1-82.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: greasewood](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Greasewood (*Sarcobatus vermiculatus*) is a native shrub found in western Canada from southwestern Saskatchewan to southeastern British Columbia. In the western United States, sheep that ingested this plant became ill and died. Oxalates are present in all parts of the plant but are concentrated in the leaves. This plant is regarded as valuable forage. Toxicity can be avoided with good animal management (Kingsbury 1964, Cheeke and Schull 1985).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Scimeca, J. M., Oehme, F. W. 1985. Postmortem guide to common poisonous plants of livestock. Vet. Hum. Toxicol., 27: 189-199.

### Nomenclature:

Scientific Name: *Sarcobatus vermiculatus* (Hook.) Torr.

Vernacular name(s): greasewood

Scientific family name: *Chenopodiaceae*

Vernacular family name: goosefoot

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Sarcobatus vermiculatus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ.,



Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

greasewood:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Notes on Toxic plant chemicals:**

Oxalates are found in greasewood. On a dry-weight basis the total content was measured at between 10 and 22%, mostly as soluble salts. The oxalate content is greatest in the leaves, the amount increasing with maturity. Ingesting plant material equal to 1.5-5.0% of and animal's body weight can cause toxicity in sheep (Kingsbury 1964).

### **Toxic plant chemicals:**

oxalate

## References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Sheep

### General symptoms of poisoning:

[coma](#)

[death](#)

[depression](#)

[prostration](#)

[weakness](#)

### Notes on poisoning:

In the western United States, 1000 sheep were lost at a single time. Symptoms occur within 3-5 h of ingesting a toxic quantity of greasewood plant. Symptoms may occur abruptly after animals have been watered. Toxic signs include depression, weakness, prostration, coma, and death. Respiration and heart action grow progressively weaker, and death occurs in 12-20 h. Hypocalcemia is caused by the formation of calcium oxalate in the system. Microscopic lesions occur in the kidney tubules (Kingsbury 1964, Scimeca and Oehme 1985).

## References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: greater celandine](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Greater celandine (*Chelidonium majus*) is a perennial naturalized herb found in parts of eastern Canada. This plant is suspected in the death of a four-year old boy (Koopman 1937). There are records of skin irritation and soreness after the latex is applied to the skin, a practice that was followed in Europe to help minor skin injuries (Cooper and Johnson 1984). Cattle were poisoned and died in Britain after ingesting the ripe fruit of this plant (Reeks 1903); 500 g of the plant can cause toxic effects in horses or cattle (Frohne and Pfander 1983).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Koopman, H. 1937. A fatal case of celandine poisoning. Sammlung von Vergiftungsfallen, 8: 93-98.

Reeks, H. C. 1903. Poisoning of cattle by common celandine. J. Comp. Pathol. Ther., 16: 367-371.

### Nomenclature:

Scientific Name: *Chelidonium majus* L.

Vernacular name(s): greater celandine

Scientific family name: *Papaveraceae*

Vernacular family name: poppy

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Chelidonium majus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que.,

Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

New Brunswick  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

greater celandine:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The entire plant is considered poisonous. The plant contains bright yellow latex that turns reddish after exposure to air. The plant is considered unpalatable because of its acrid taste and pungent, fetid smell (Frohne and Pfander 1983, Cooper and Johnson 1984).

### **Toxic parts:**

latex

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery

Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Notes on Toxic plant chemicals:**

Chelidonine is the major alkaloid found in greater celandine. At least 20 other alkaloids have been found in the plant. The concentration of these alkaloids varies in various plant organs, depending on the stage of growth (Frohne and Pfander 1983).

### **Toxic plant chemicals:**

chelidonine

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[convulsions](#)  
[death](#)  
[drowsiness](#)  
[gait, staggering](#)  
[salivation](#)

#### **Notes on poisoning:**

One case of cattle poisoning is attributed to this plant. The cattle became drowsy, had a staggering gait, salivated, and some cows died. Calves that suckled the poisoned cows were unaffected. Postmortem examination revealed gastrointestinal irritation (Reeks 1903).

#### **References:**

Reeks, H. C. 1903. Poisoning of cattle by common celandine. J. Comp. Pathol. Ther., 16: 367-371.

### **Humans**

#### **General symptoms of poisoning:**

[coma](#)  
[death](#)  
[diarrhea](#)  
[drowsiness](#)  
[headache](#)

**Notes on poisoning:**

The case of a 4-year-old boy who sickened and died is cited in the literature. Postmortem examination showed severe irritation of the large intestine. The cause of death was suspected to be greater celandine (Koopman 1937).

**References:**

Koopman, H. 1937. A fatal case of celandine poisoning. Sammlung von Vergiftungsfallen, 8: 93-98.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: green tansy mustard](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Green tansy mustard (*Descurainia pinnata*) is a native herb found in fields and rangelands across central and western Canada. Poisoning has occurred in cases where animals have fed almost exclusively on the plants over long periods. Cattle, goats, and horses have been poisoned (Kingsbury 1964, Staley 1976).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Staley, E. S. 1976. A treatment for tansy mustard poisoning. Bovine Pract., 11: 35.

### Nomenclature:

Scientific Name: *Descurainia pinnata* (Walt.) Britt.

Vernacular name(s): green tansy mustard

Scientific family name: *Cruciferae*

Vernacular family name: mustard

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Descurainia pinnata](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci.

(Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Northwest Territories  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

green tansy mustard:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
seeds

### **References:**

Staley, E. S. 1976. A treatment for tansy mustard poisoning. Bovine Pract., 11: 35.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Staley, E. S. 1976. A treatment for tansy mustard poisoning. Bovine Pract., 11: 35.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.



## **Cattle**

### **General symptoms of poisoning:**

[blindness](#)

[death](#)

[weight loss](#)

### **Notes on poisoning:**

Symptoms in cattle start with partial or complete blindness, followed by an inability to use the tongue or throat, leading to an inability to eat. Death occurs if treatment is not applied to recover the ability to eat and see. Treatment has included administering 9-14 L of water twice daily to improve digestion. More recent treatment involves intravenous injections of ethanol diluted in Ringers solution (Staley 1976).

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Staley, E. S. 1976. A treatment for tansy mustard poisoning. Bovine Pract., 11: 35.

## **Goats**

## **Horses**

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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: ground-cherry](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Ground-cherry (*Physalis peruviana*) is an ornamental herb that is grown for its ripe fruits, which are used for making preserves. The immature fruits contain sufficient solanine to cause gastroenteritis and diarrhea if ingested. Children should be discouraged from eating the fruits (Lampe and McCann 1985).

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Physalis peruviana* L.

Vernacular name(s): ground-cherry

Scientific family name: *Solanaceae*

Vernacular family name: nightshade

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Physalis peruviana](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Plant or plant parts used in or around the home.

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

ground-cherry:

Images: [images.google.com](http://images.google.com)

### Toxic parts:

immature fruit

### References:

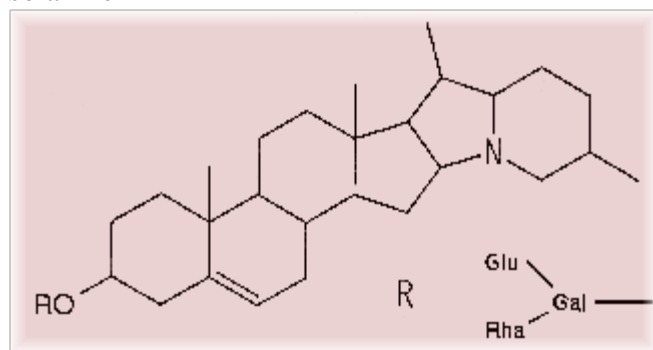
Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Notes on Toxic plant chemicals:

Solanine, a bitter glycoalkaloid, is found in the unripened berries (Lampe and McCann 1985).

### Toxic plant chemicals:

solanine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and

Agri-Food Canada, Kamloops, British Columbia, Canada.

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[diarrhea](#)

[fever](#)

[gastroenteritis](#)

### **Notes on poisoning:**

Symptoms of ingestion include gastroenteritis, diarrhea, and fever, with a scratchy feeling in the throat a few hours after ingestion. Children are more susceptible to poisoning than adults (Lampe and McCann 1985).

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: ground-ivy](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Ground-ivy (*Glechoma hederacea*) is a creeping ground cover that can grow abundantly in uncultivated damp or shaded ground around houses and garden areas. This plant contains an irritant oil that is toxic to horses if they ingest large quantities of the fresh or dried plant. In one case in Canada the death of horses was reported (Fyles 1920, Fuller and McClintock 1986).

### References:

- Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.
- Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

### Nomenclature:

Scientific Name: *Glechoma hederacea* L.

Vernacular name(s): ground-ivy

Scientific family name: *Labiatae*

Vernacular family name: mint

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Glechoma hederacea](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.
- Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.
- Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

ground-ivy:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Horses**

#### **General symptoms of poisoning:**

[cyanosis](#)

[dyspnea](#)

[lungs, congestion of](#)

[pupil dilation](#)

[salivation](#)

[sweating](#)

#### **Notes on poisoning:**

In Prince Edward Island two horses ingested large quantities of ground-ivy in November when the ivy provided an abundance of green foliage. The horses panted continually and died within a week. One horse would lie down and the other horse would not. In Europe, horses have been reported to ingest large amounts of fresh or dried ground-ivy, with subsequent poisoning. Apparently, cattle and sheep were not poisoned after they ingested the plant (Fyles 1920).

#### **References:**

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: Guelder-rose](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Guelder-rose (*Viburnum opulus*) was introduced as a cultivated ornamental and can grow across southern Canada. Occasionally, the shrub may become naturalized. The fears of serious poisoning reported in older literature seem unfounded. Humans who ingest the berries may experience mild symptoms (Frohne and Pfander 1983).

### References:

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### Nomenclature:

Scientific Name: *Viburnum opulus* L.

Vernacular name(s): Guelder-rose

Scientific family name: *Caprifoliaceae*

Vernacular family name: honeysuckle

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Viburnum opulus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.



Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Guelder-rose:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

immature fruit

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[diarrhea](#)  
[vomiting](#)

### **Notes on poisoning:**

The older European literature suggests that ingesting the berries can cause serious poisoning or even death. However, no recent cases of serious poisoning have been reported. Ingesting the fruits can cause diarrhea or vomiting if unripe berries or large quantities of berries are eaten (Frohne and Pfander 1983).

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|---|----------------------------|-----------------------|--|-----------------------------|
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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: hairy vetch](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Hairy vetch (*Vicia villosa*) was introduced as a forage in Canada and has become successfully naturalized in parts of southern Canada. This plant causes poisoning in cattle, horses, and poultry. Various syndromes occur in cattle, including a dermatitis that resembles photosensitization in many respects, except that the skin lesions appear on pigmented skin as well. Mortality occurs in cattle and poultry (Pancierera 1978, Kerr and Edwards 1982, Cooper and Johnson 1984).

### References:

- Anderson, C. A., Divers, T. J. 1983. Systemic granulation inflammation in a horse grazing hairy vetch. *J. Am. Vet. Med. Assoc.*, 183: 569-570.
- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.
- Kerr, L. A., Edwards, W. C. 1982. Hairy vetch poisoning of cattle. *Vet. Med. Small Anim. Clin.*, 77: 257-258.
- Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.
- Pancierera, R. J. 1978. Hairy vetch (*Vicia villosa* Roth) poisoning in cattle. Pages 555-563 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. *Effects of poisonous plants on livestock*. Academic Press, New York, N.Y., USA. 600 pp.

### Nomenclature:

Scientific Name: *Vicia villosa* Roth

Vernacular name(s): hairy vetch

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Vicia villosa](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

British Columbia  
Manitoba  
Nova Scotia  
Ontario  
Quebec

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

hairy vetch:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

This plant has occasionally caused poisoning when used as a forage for livestock (Cheeke and Schull 1985).

### Toxic parts:

leaves

seeds

**References:**

Kerr, L. A., Edwards, W. C. 1982. Hairy vetch poisoning of cattle. *Vet. Med. Small Anim. Clin.*, 77: 257-258.

**Toxic plant chemicals:**

unknown chemical

**References:**

Kerr, L. A., Edwards, W. C. 1982. Hairy vetch poisoning of cattle. *Vet. Med. Small Anim. Clin.*, 77: 257-258.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[anorexia](#)

[breathing, labored](#)

[coat, rough and dry](#)

[conjunctivitis](#)

[convulsions](#)

[death](#)

[diarrhea](#)

[pain](#)

[pneumonitis](#)

[restlessness](#)

[skin, peeling of](#)

[weakness](#)

[weight loss](#)

**Notes on poisoning:**

Two types of syndromes are suggested from the symptoms seen in cattle. The first syndrome is acute illness followed by death after ingesting raw seeds of hairy vetch. The animals were very restless, showed pain, experienced convulsions, and died. The second syndrome involves skin lesions, cough, respiration problems, and death after 2 weeks. Postmortem findings showed severe bronchitis with pneumonia, yellow- brown liver, and inflamed forestomachs (Pancieria 1978, Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery

Office, London, England. 305 pp.

Kerr, L. A., Edwards, W. C. 1982. Hairy vetch poisoning of cattle. *Vet. Med. Small Anim. Clin.*, 77: 257-258.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Pancier, R. J. 1978. Hairy vetch (*Vicia villosa* Roth) poisoning in cattle. Pages 555-563 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

## **Horses**

### **General symptoms of poisoning:**

[conjunctivitis](#)  
[mouth, edema of](#)

### **Notes on poisoning:**

Hairy vetch causes systemic granulomatous inflammation. Edema occurs especially around the lips and eyes. Conjunctivitis and corneal ulceration develops. The poisoning is most prevalent in mid to late spring as the hairy vetch reaches maturity (Anderson and Divers 1983).

### **References:**

Anderson, C. A., Divers, T. J. 1983. Systemic granulation inflammation in a horse grazing hairy vetch. *J. Am. Vet. Med. Assoc.*, 183: 569-570.

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

## **Poultry**

### **General symptoms of poisoning:**

[breathing, labored](#)  
[convulsions](#)  
[incoordination](#)  
[weight loss](#)

### **Notes on poisoning:**

Feeding chicks experimentally on a diet of 30-80% hairy vetch seeds caused 20-40% mortality. Symptoms included weight loss, excitability, and sometimes violent convulsions (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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[Important Notices](#)



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|---|----------------------------|-----------------------|--|-----------------------------|
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| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: heart-leaved philodendron](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Heart-leaved philodendron (*Philodendron scandens*) is an ornamental. Chewing the leaves of philodendrons results in painful burning and swelling of the mouth parts because of the oxalates. Contact dermatitis also occurs (Lampe and McCann 1985). A recent survey showed that even though 67% of 188 cases involved philodendrons, only one case developed minor symptoms (Mrvos et al. 1990). McIntire et al. (1990) describe the death of an infant after it had ingested a philodendron. The child had ulceration of lips and tongue as well as esophageal erosion. Death was caused by cardiac arrest secondary to vagotonia resulting from esophageal erosions. Family pets can also exhibit signs of toxicity if they chew on leaves of philodendrons. Hanna (1986) lists several symptoms attributable to ingestion of these plants by pets. However, Sellers et al. (1977) conducted laboratory feeding studies on cats and concluded that signs of acute toxicity were not found upon necropsy, even when large quantities of leaves were ingested. Experimental work on mice and rats showed that death occurred when the rodents were given extracts from leaves and stems (Der Marderosian et al. 1976).

### References:

- Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.
- Hanna, G. 1986. Plant poisoning in canines and felines. Vet. Hum. Toxicol., 28: 38-40.
- Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.
- McIntire, M. S., Guest, J. R., Porterfield, J. F. 1990. Philodendron - an infant death. Clin. Toxicol., 28: 177-183.
- Mrvos, R., Dean, B. S., Krenzelok, E. P. 1990. *Philodendron/Dieffenbachia* ingestions: are they a problem? Vet. Hum. Toxicol., 32: 369.
- Sellers, S. J., King, M., Aronson, C. E., Der Marderosian, A. 1977. Toxicologic assessment of *Philodendron oxycardium* Schott



(Araceae) in domestic cats. *Vet. Hum. Toxicol.*, 19: 92-96.

**Nomenclature:**

Scientific Name: *Philodendron scandens* C. Koch & H. Sello

Vernacular name(s): heart-leaved philodendron

Scientific family name: *Araceae*

Vernacular family name: arum

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Philodendron scandens](#)

**References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

**Geographic Information**

Plant or plant parts used in or around the home.

**References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

**Image or illustration**

heart-leaved philodendron:

**Images:** [images.google.com](http://images.google.com)

**Toxic parts:**

leaves

**References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

**Toxic plant chemicals:**

oxalate

**References:**

Sellers, S. J., King, M., Aronson, C. E., Der Marderosian, A. 1977. Toxicologic assessment of *Philodendron oxycardium* Schott (Araceae) in domestic cats. Vet. Hum. Toxicol., 19: 92-96.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cats**

**General symptoms of poisoning:**

[nephritis](#)  
[nervousness](#)  
[opisthotonos](#)  
[temperature, elevated](#)  
[trembling](#)

**References:**

Hanna, G. 1986. Plant poisoning in canines and felines. Vet. Hum. Toxicol., 28: 38-40.

Sellers, S. J., King, M., Aronson, C. E., Der Marderosian, A. 1977. Toxicologic assessment of *Philodendron oxycardium* Schott (Araceae) in domestic cats. Vet. Hum. Toxicol., 19: 92-96.

**Humans**

**General symptoms of poisoning:**

[mouth, irritation of](#)

**Notes on poisoning:**

Painful burning and swelling of lips, mouth, tongue, and throat can develop quickly after chewing of leaves. Contact dermatitis can also occur. Treatment includes administering cool liquids. The insoluble

oxalates do not produce systemic poisoning in humans (Lampe and McCann 1985).

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

McIntire, M. S., Guest, J. R., Porterfield, J. F. 1990. Philodendron - an infant death. Clin. Toxicol., 28: 177-183.

### **Rodents**

#### **General symptoms of poisoning:**

[death](#)

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

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Date modified: 2009-09-01

[Important Notices](#)



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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: hemp dogbane](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

1909). Hemp dogbane (*Apocynum cannabinum*) is a native plant found across Canada. Fuller and McClintock (1986) report that two horses died after ingesting alfalfa hay that contained large quantities of hemp dogbane. The tops of the plants (up to 1 m tall) were found in the hay.

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### Nomenclature:

Scientific Name: *Apocynum cannabinum* L.

Vernacular name(s): hemp dogbane

Scientific family name: *Apocynaceae*

Vernacular family name: dogbane

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Apocynum cannabinum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

hemp dogbane:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts

### **References:**

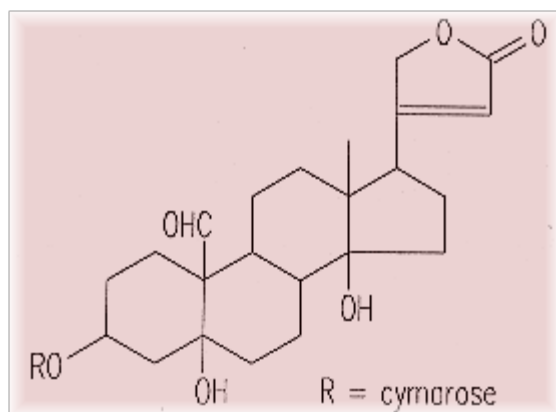
Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Notes on Toxic plant chemicals:**

Hemp dogbane contains the chemical cymarin (a cardiac glycoside). Joubert (1989) lists this chemical under "**Apocynum camrabinum**," which is a typographical error and should read "**Apocynum cannabinum**."

### **Toxic plant chemicals:**

apocynamarin  
cymarin



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Joubert, J. P. 1989. Cardiac glycosides. Pages 61-97 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Horses

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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: horse-chestnut](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Horse-chestnut (*Aesculus hippocastanum*) is an introduced tree that is found in the southern parts of Ontario and Quebec. It has poisoned cattle, horses, and pigs, causing sickness and death (Reynard and Norton 1942, Muenscher 1975). Human poisoning has also occurred.

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Hardin, J. W., Arena, J. M. 1969. Human poisoning from native and cultivated plants. Duke University Press, Durham, N.C., USA. 167 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

### Nomenclature:

Scientific Name: *Aesculus hippocastanum* L.

Vernacular name(s): horse-chestnut

Scientific family name: *Hippocastanaceae*

Vernacular family name: horse-chestnut

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Aesculus hippocastanum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

horse-chestnut:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Horse-chestnut fruits, leaves, and flowers contain the chemical aesculin. Young leaves and flowers are especially toxic to cattle (Reynard and Norton 1942). Children occasionally ingest the fruit but few authenticated cases of poisoning are found in the literature, although death has been reported (Lampe and McCann 1985).

### **Toxic parts:**

flowers  
leaves  
mature fruit

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.



Hardin, J. W., Arena, J. M. 1969. Human poisoning from native and cultivated plants. Duke University Press, Durham, N.C., USA. 167 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

### **Notes on Toxic plant chemicals:**

Aesculin is a saponin (7-hydroxycoumarin 6-glucoside) that yields aesculetin (6,7-dihydroxycoumarin) upon hydrolysis. Aesculin is related to hydrocoumarin found in spoiled sweet-clover hay (Cooper and Johnson 1984). LD-50 measurements from nut extracts were as follows (Williams and Olsen 1984):

10.6 mg/g of body weight for chicks  
10.7 mg/g of body weight for hamsters.

### **Toxic plant chemicals:**

aesculin

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

Williams, M. C., Olsen, J. D. 1984. Toxicity of seeds of three *Aesculus* spp to chicks and hamsters. Am. J. Vet. Res., 45: 539-542.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

### **Humans**

### **General symptoms of poisoning:**

[death](#)

[depression](#)

[diarrhea](#)

[gastroenteritis](#)

[muscle twitching](#)  
[paralysis](#)  
[pupil dilation](#)  
[restlessness](#)  
[unconsciousness](#)  
[vomiting](#)  
[weakness](#)

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Hardin, J. W., Arena, J. M. 1969. Human poisoning from native and cultivated plants. Duke University Press, Durham, N.C., USA. 167 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: horseradish](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Horseradish (*A Armoracia rusticana*) is a cultivated plant that can persist after cultivation. The plant contains glucosinolates, which can cause toxicity in livestock. Irritation of the mucous membranes can occur in humans who grind the roots to produce horseradish condiment. See the notes under *Brassica oleracea* for more information on these chemicals. Under normal circumstances horseradish is safe.

### References:

Fenwick, G. R., Heaney, R. K., Mawson, R. 1989. Glucosinolates. Pages 1-41 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *A Armoracia rusticana* P. Gaertn., Mey & Scherb.

Vernacular name(s): horseradish

Scientific family name: *Cruciferae*

Vernacular family name: mustard

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Armoracia rusticana](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

horseradish:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Horseradish contains glucosinolates which, if ingested in sufficient quantities, can cause poisoning (Fenwick et al. 1989).

### **Toxic parts:**

all parts  
leaves  
roots

### **References:**

Fenwick, G. R., Heaney, R. K., Mawson, R. 1989. Glucosinolates. Pages 1-41 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

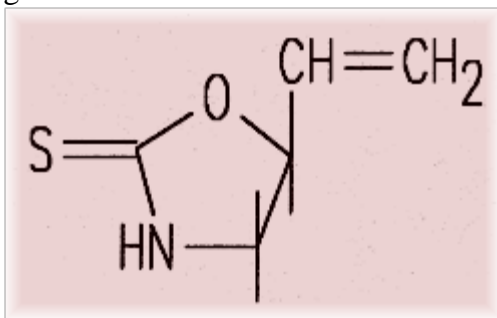
### **Notes on Toxic plant chemicals:**

See the notes under [Brassica oleracea](#) for a discussion on this

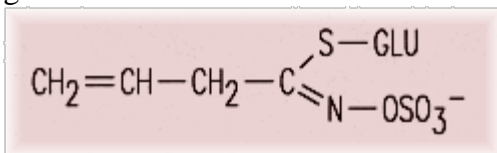
chemical and its effects on livestock and humans.

**Toxic plant chemicals:**

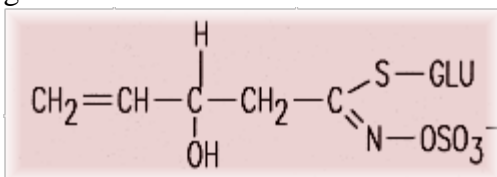
glucosinolates



glucosinolates



glucosinolates



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Fenwick, G. R., Heaney, R. K., Mawson, R. 1989. Glucosinolates. Pages 1-41 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Humans**

**Swine**

**General symptoms of poisoning:**

[collapse](#)  
[death](#)

**Notes on poisoning:**

Swine have been poisoned after ingesting of horseradish root equal

to 1% of body weight. The animals suffer acute inflammation of the mucous membranes of the stomach as well as pain, followed by collapse and death (Kingsbury 1964).

**References:**

Fenwick, G. R., Heaney, R. K., Mawson, R. 1989. Glucosinolates. Pages 1-41 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: hound's tongue](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Hound's-tongue (*Cynoglossum officinale*) is a naturalized biennial plant found across southern Canada. The plant contains pyrrolizidine alkaloids, which have caused poisoning and death in horses and cattle. The plant causes disorders of the central nervous system and can cause hepatic failure in horses (Knight et al. 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Knight, A. P., Kimberling, C. V., Stermitz, F. R., Roby, M. R. 1984. *Cynoglossum officinale* (hound's-tongue) - a cause of pyrrolizidine alkaloid poisoning in horses. J. Am. Vet. Med. Assoc., 185: 647-650.

### Nomenclature:

Scientific Name: *Cynoglossum officinale* L.

Vernacular name(s): hound's tongue

Scientific family name: *Boraginaceae*

Vernacular family name: borage

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Cynoglossum officinale](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

hound's tongue:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The concentration of the various alkaloids is highest in the rosette stage, i.e., when the leaves are all attached to the root crown and a stem has not grown yet (Knight et al. 1984).

### **Toxic parts:**

leaves

### **References:**

Knight, A. P., Kimberling, C. V., Stermitz, F. R., Roby, M. R. 1984. *Cynoglossum officinale* (hound's-tongue) - a cause of pyrrolizidine alkaloid poisoning in horses. J. Am. Vet. Med. Assoc., 185: 647-650.

### **Notes on Toxic plant chemicals:**



The following LD-50 toxicities have been determined in male rats:

|             |           |
|-------------|-----------|
| heliosupine | 60 mg/kg  |
| echinatine  | 350 mg/kg |

The amount of pyrrolizidine alkaloid content in the plant has been reported to be 0.6-2.1% of dry matter (Cheeke and Schull 1985).

**Toxic plant chemicals:**

echinatine  
heliosupine

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Knight, A. P., Kimberling, C. V., Stermitz, F. R., Roby, M. R. 1984. *Cynoglossum officinale* (hound's-tongue) - a cause of pyrrolizidine alkaloid poisoning in horses. J. Am. Vet. Med. Assoc., 185: 647-650.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[death](#)

**Notes on poisoning:**

Cattle have also been poisoned after ingesting hound's-tongue. The animals often have staring expressions and diarrhea. They experience increased thirst, nervousness, and a drop in milk yield. Necropsy shows an inflamed stomach as well as swollen, edematous mesenteric lymph nodes. Death occurred within 24 h of plant ingestion (Cooper and Johnson 1984, Knight et al. 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Horses**

**General symptoms of poisoning:**

[ataxia](#)  
[breathing, rapid](#)  
[coma](#)  
[convulsions](#)  
[death](#)  
[depression](#)  
[diarrhea](#)  
[hemoglobinuria](#)  
[icterus](#)  
[liver, cirrhosis of](#)  
[lungs, congestion of](#)

### **Notes on poisoning:**

Actual and experimental cases of hound's-tongue ingestion by horses have resulted in sickness and death. Postmortem examinations show severe icterus and hepatic cirrhosis with diffuse, severe megalocytosis, biliary hyperplasia, and fibrosis (Knight 1984).

### **References:**

Knight, A. P., Kimberling, C. V., Stermitz, F. R., Roby, M. R. 1984. *Cynoglossum officinale* (hound's-tongue) - a cause of pyrrolizidine alkaloid poisoning in horses. J. Am. Vet. Med. Assoc., 185: 647-650.

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## [Notes on poisoning: hydrangea](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Hydrangea (*Hydrangea macrophylla*) is an outdoor ornamental that is grown in the warmer parts of Canada. This plant has poisoned humans after they ingested the flower buds. Sensitive individuals can develop dermatitis after exposure to hydrangea. Older case reports of poisoning of horses and cattle appear in the literature, but no recent reports are available (Apted 1973, Bruynzeel 1986, Fuller and McClintock 1986).

### References:

Apted, J. H. 1973. Phytodermatitis from hydrangeas. Arch. Dermatol., 108: 427.

Bruynzeel, D. P. 1986. Allergic contact dermatitis to hydrangea. Contact Dermatitis, 14: 128.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### Nomenclature:

Scientific Name: *Hydrangea macrophylla* (Thunb.) Ser.

Vernacular name(s): hydrangea

Scientific family name: *Saxifragaceae*

Vernacular family name: saxifrage

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Hydrangea macrophylla](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

hydrangea:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

flower buds  
leaves

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

### **Notes on Toxic plant chemicals:**

Hydragin, a cyanogenetic glycoside, is presumed to be responsible for toxicity because it can release hydrocyanic acid upon hydrolysis. Der Marderosian and Roia (1976) administered 3 g of plant extract intraperitoneally, in 10 mL of liquid suspension per 100 g of body weight. All rats died when given extracts from hydrangea flowers and leaves. No mice died when orally fed 100 mg of flower material

per 35 g body weight.

**Toxic plant chemicals:**

hydragin

**References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[abdominal pains](#)  
[breathing, labored](#)  
[diarrhea](#)

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Horses**

**General symptoms of poisoning:**

[diarrhea](#)

**Notes on poisoning:**

A horse that ingested hydrangea experienced contraction of the abdominal muscles, diarrhea, and stiffness of limbs (Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[coma](#)

[diarrhea](#)

[erythema](#)

[gastroenteritis](#)

[lethargy](#)

[vomiting](#)

### **Notes on poisoning:**

Ingesting hydrangea flower buds has resulted in poisoning (Fuller and McClintock 1986).

### **References:**

Apted, J. H. 1973. Phytodermatitis from hydrangeas. Arch. Dermatol., 108: 427.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Iceland poppy](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Iceland poppy (*Papaver nudicaule*) is an ornamental outdoor plant that occasionally escapes from cultivation. The plant contains alkaloids that may cause problems in animals that ingest it. Horses, cattle, and sheep were poisoned when discarded plants were given to livestock (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Papaver nudicaule* L.

Vernacular name(s): Iceland poppy

Scientific family name: *Papaveraceae*

Vernacular family name: poppy

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Papaver nudicaule](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Iceland poppy:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
plant juices

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Notes on Toxic plant chemicals:**

Physiological alkaloids have been found in Iceland poppy (Kingsbury 1964).

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.



## **Cattle**

### **General symptoms of poisoning:**

[bloat](#)  
[incoordination](#)  
[muscle spasms](#)  
[muscle twitching](#)  
[nervousness](#)  
[recumbency](#)  
[restlessness](#)

### **Notes on poisoning:**

Symptoms are similar in all species that have been poisoned, including initial restlessness and excitement followed by incoordination, spasms, falling, and bloat in some cases. Milk yield may be reduced (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Horses**

### **General symptoms of poisoning:**

[bloat](#)  
[incoordination](#)  
[muscle spasms](#)  
[muscle twitching](#)  
[nervousness](#)  
[recumbency](#)

### **Notes on poisoning:**

Symptoms of poisoning include restlessness, incoordination, stiffness, muscular twitching, falling, and bloat. This poppy has rarely proved fatal (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Sheep**

### **General symptoms of poisoning:**

[bloat](#)  
[incoordination](#)  
[muscle spasms](#)

[nervousness](#)

[recumbency](#)

**Notes on poisoning:**

Symptoms include restlessness, incoordination, muscular twitching, and falling down. Milk yield can remain depressed for long periods (Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Indian mustard](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Indian mustard (*Brassica juncea*) is a naturalized herb found across much of Canada. This plant can contain large quantities of toxins that are common to the genus *Brassica*. Many of these compounds are being reduced through plant breeding. See the comments under sections of *Brassica oleracea*, which include a discussion of problems in relation to this genus.

### References:

Fenwick, G. R., Heaney, R. K., Mawson, R. 1989. Glucosinolates. Pages 1-41 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

Kernaleguen, A., Smith, R. A., Yong, C. W. 1989. Acute mustard seed toxicosis in beef cattle. Can. Vet. J., 30: 524.

### Nomenclature:

Scientific Name: *Brassica juncea* (L.) Czern.

Vernacular name(s): Indian mustard

Scientific family name: *Cruciferae*

Vernacular family name: mustard

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Brassica juncea](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Newfoundland  
Northwest Territories  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Indian mustard:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

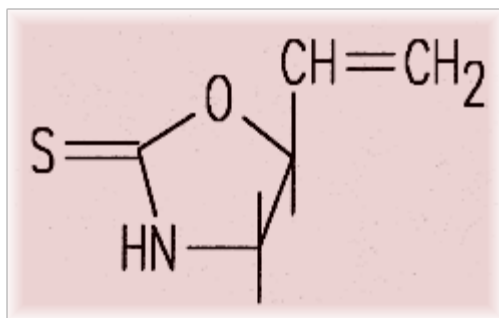
leaves  
seeds

### **References:**

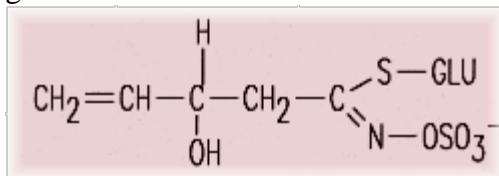
Fenwick, G. R., Heaney, R. K., Mawson, R. 1989. Glucosinolates. Pages 1-41 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### **Toxic plant chemicals:**

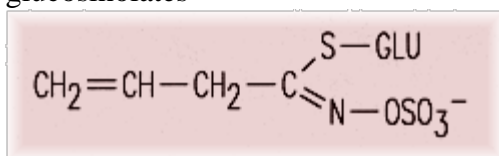
glucosinolates



glucosinolates



glucosinolates



S-methyl-L-cysteine sulfoxide (SMCO)

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Fenwick, G. R., Heaney, R. K., Mawson, R. 1989. Glucosinolates. Pages 1-41 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Cattle

#### General symptoms of poisoning:

[abortion](#)

[death](#)

[dehydration](#)

[gait, staggering](#)

#### Notes on poisoning:

In one case in Saskatchewan, a herd of cattle gained access to waste mustard seed. Six cows died and two were ill. Symptoms included depression, staggering, and reluctance to move. Several cows aborted, but most showed clinical signs of sickness. Postmortem

findings revealed profuse edema of the forestomachs and abomasum. A 2-3 cm layer of clear, yellowish, gelatinous fluid was present under the serosa of the rumen, reticulum, and omasum. Allyl isothiocyanate at a rate of 1000 mg/100 mL was liberated from the seeds. A rate of 250 mg/100 mL is regarded as acutely toxic to cattle (Kernaleguen et al. 1989).

### **References:**

Kernaleguen, A., Smith, R. A., Yong, C. W. 1989. Acute mustard seed toxicosis in beef cattle. Can. Vet. J., 30: 524.

### **Swine**

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Date modified: 2009-09-01 [Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Indian-tobacco](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Indian-tobacco (*Lobelia inflata*) is a herb native to Canada. In the past, aboriginal people smoked its dried leaves. This plant and related *Lobelia* species were used as medicinal plants. Overdoses led to cases of poisoning, which resulted in fatalities. No modern cases of poisoning are found in the literature. The dried leaves of *Lobelia* may be found in health food stores as a herbal medicine (Lampe and McCann 1985).

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Lobelia inflata* L.

Vernacular name(s): Indian-tobacco

Scientific family name: *Campanulaceae*

Vernacular family name: bellflower

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lobelia inflata](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Indian-tobacco:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Notes on Toxic plant chemicals:**

Lobeline is one of several alkaloids found in Indian-tobacco and other *Lobelia* species. This extract has been used in home medicine for various purposes. Overdoses have resulted in cases of poisoning, including death. The dry leaves of *Lobelia* may be sold in health food stores as a herbal remedy.

### **Toxic plant chemicals:**

lobeline

### **References:**



Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

#### **General symptoms of poisoning:**

[collapse](#)

[coma](#)

[death](#)

[pain](#)

[paralysis](#)

[sweating](#)

[vomiting](#)

#### **Notes on poisoning:**

In overdoses of the plant extract, symptoms included vomiting, sweating, pain, paralysis, depressed temperature, rapid but feeble pulse, coma, and death (Kingsbury 1964).

#### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: Jack-in-the-pulpit](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Jack-in-the-pulpit (*Arisaema triphyllum*) is a native plant found in wet soils in parts of eastern Canada. The plant contains calcium oxalate raphide crystals, as do many other members of the family Araceae. When ingested, these crystals can cause severe pain and burning in the lips, mouth, and throat (Lampe and McCann 1985).

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Muenschler, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

### Nomenclature:

Scientific Name: *Arisaema triphyllum* (L.) Torr.

Vernacular name(s): Jack-in-the-pulpit

Scientific family name: *Araceae*

Vernacular family name: arum

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Arisaema triphyllum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Jack-in-the-pulpit:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
rhizome

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Toxic plant chemicals:**

oxalate

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[salivation](#)

### **Notes on poisoning:**

Ingesting Jack-in-the-pulpit causes a burning sensation, with associated inflammation, edema, and salivation. Treatment includes cool liquids held in the mouth to provide relief. The oxalates are insoluble and do not cause systemic poisoning in plants (Lampe and McCann 1985).

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
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## [Notes on poisoning: Japanese wisteria](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



### **General poisoning notes:**

Japanese wisteria (*Wisteria floribunda*) is an ornamental vine that is grown for its beautiful flowers. This plant is restricted to the warmer parts of Canada, such as southern Ontario and Vancouver Island. With care, the vine successfully overwinters in Ottawa, Ont. All parts of the plant are toxic, especially the seeds. Ingesting 1-2 seeds can cause serious poisoning in a child. However, no fatalities have been reported in the literature. Another plant in the same genus, Chinese wisteria (*Wisteria sinensis* (Sims) Sweet), may also be capable of surviving in southern Canada (Anon. 1961, Lampe and McCann 1985).

### **References:**

Anon. 1961. *Wisteria*. Natl. Clgh. Poison Control Cent., July-Aug: 1-2.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Nomenclature:**

Scientific Name: *Wisteria floribunda* (Willd.) DC.

Vernacular name(s): Japanese wisteria

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Wisteria floribunda](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ.,

Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Japanese wisteria:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of the plant, including the flowers, are toxic. The seeds are especially toxic (Lampe and McCann 1985).

### **Toxic parts:**

all parts  
flowers  
leaves  
seeds

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Notes on Toxic plant chemicals:**

A glycoside, wistarine, has been found in the plant. It also contains a poisonous lectin (Lampe and McCann 1985).

## **Toxic plant chemicals:**

wistarine

## **References:**

Anon. 1961. *Wisteria*. Natl. Clgh. Poison Control Cent., July-Aug: 1-2.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[collapse](#)

[dehydration](#)

[diarrhea](#)

[nausea](#)

[vomiting](#)

### **Notes on poisoning:**

Humans who ingest wisteria exhibited the following symptoms: nausea, vomiting, diarrhea, abdominal pain, and dehydration. Ingesting 1-2 seeds caused serious poisoning in a young adult. Patients usually recover in 1-2 days. Treatment includes induction of emesis, followed by supportive treatments with antiemetics and fluid replacement (Anon. 1961, Lampe and McCann 1985).

## **References:**

Anon. 1961. *Wisteria*. Natl. Clgh. Poison Control Cent., July-Aug: 1-2.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Japanese yew](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Japanese yew (*Taxus cuspidata*) is an outdoor ornamental that is winter-hardy across southern Canada. This shrub contains toxic quantities of the alkaloid taxine. Cattle and horses became ill and died after ingesting the leaves and twigs of Japanese yew. In two cases in Ontario, several cattle died after gaining access to shrubs around houses or after being given hedge trimmings (Alden et al. 1977, Thomson and Barker 1978).

### References:

Alden, C. L., Fosnaugh, C. J., Smith, J. B., Mohan, R. 1977. Japanese yew poisoning of large domestic animals in the midwest. J. Am. Vet. Med. Assoc., 170: 314-316.

Ogden, L. 1988. *Taxus* (yews) - a highly toxic plant. Vet. Hum. Toxicol., 30: 563-564.

Thomson, G. W., Barker, I. K. 1978. Japanese yew (*Taxus cuspidata*) poisoning in cattle. Can. Vet. J., 19: 320-321.

Veatch, J. K., Reid, F. M., Kennedy, G. A. 1988. Differentiating yew poisoning from other toxicoses. Vet. Med., 83: 298-300.

### Nomenclature:

Scientific Name: *Taxus cuspidata* Siebold & Zucc.

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci.



(Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Japanese yew:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Leaves, twigs, and seeds are toxic. Only the red arils, the fleshy outer parts of the fruits, are considered nontoxic (Ogden 1988).

### **Toxic parts:**

leaves  
seeds  
twigs

### **References:**

Ogden, L. 1988. *Taxus* (yews) - a highly toxic plant. Vet. Hum. Toxicol., 30: 563-564.

### **Notes on Toxic plant chemicals:**

Taxine (taxin) is a complex mixture of alkaloids that is rapidly absorbed from the digestive tract and interferes with heart action (Feldman et al. 1987).

### **Toxic plant chemicals:**

taxine

### **References:**

Feldman, R., Szajewski, J. M., Chrobak, J., Liberek, Z. M. 1987.

Four cases of self-poisoning with yew leaves decoction. *Vet. Hum. Toxicol.*, 29: 72.

Lampe, K. F., McCann, M. A. 1985. *AMA Handbook of poisonous and injurious plants*. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[death](#)

#### **References:**

Ogden, L. 1988. *Taxus* (yews) - a highly toxic plant. *Vet. Hum. Toxicol.*, 30: 563-564.

Veatch, J. K., Reid, F. M., Kennedy, G. A. 1988. Differentiating yew poisoning from other toxicoses. *Vet. Med.*, 83: 298-300.

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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: Jerusalem-cherry](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Jerusalem-cherry (*Solanum pseudocapsicum*) is an indoor ornamental grown for its colorful berries. This plant contains an alkaloid, solanocapsine, that is related to solanine. Experiments have shown that the chemical can cause death, although it is unlikely because oral absorption of the toxin is minimal. Experiments with cats and rats have shown that oral ingesting leaves and berries has not caused severe symptoms. By extrapolation, children or family pets that ingest moderate amounts of leaf or berry material may experience mild gastroenteritis and vomiting (Der Marderosian et al. 1976, Spoerke and Smolinske 1990).

### References:

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Solanum pseudocapsicum* L.

Vernacular name(s): Jerusalem-cherry

Scientific family name: *Solanaceae*

Vernacular family name: nightshade

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Solanum pseudocapsicum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques

des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Jerusalem-cherry:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

In experiments, extracts of the unripe and ripe berries have caused deaths in rats; the doses were very high and were given intraperitoneally. However, rats that ingested leaves did not die. Humans who ingest berries probably experience only mild gastrointestinal effects (Spoerke and Smolinske 1990).

### **Toxic parts:**

immature fruit  
leaves  
mature fruit

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants.

CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Notes on Toxic plant chemicals:**

Solanocapsine is an alkaloid that is structurally similar to solanine. It has a similar steroidal skeleton with an additional nitrogen group, but it is not a glycoside. Slowing of frog hearts has been shown with concentrations as low as 1:8 million. Oral absorption is minimal in animals. Rats experimentally injected with extracts from berries of Jerusalem-cherry (intraperitoneally, 3 g/100 g of body weight) resulted in the following fatalities:

- ripe fruit => 3 out of 5 rats killed
- unripe fruit => 4 out of 5 rats killed

These results indicate that death is possible, although the dosages given were very high (Der Marderosian et al. 1976, Spoerke and Smolinske 1990).

### **Toxic plant chemicals:**

solanocapsine

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cats**

### **General symptoms of poisoning:**

[heart rate, slow](#)

### **Notes on poisoning:**

Oral administration of pure solanocapsine has produced only slow heart rate and vomiting. Injection resulted in seizures and death. Oral ingestion of berries or leaves would likely produce only mild gastroenteritis and vomiting (Spoerke and Smolinske 1990).

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1:

939-953.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

## **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[gastroenteritis](#)

[vomiting](#)

### **Notes on poisoning:**

Experiments on animals suggest that children who ingest leaf or berry material might suffer only mild gastroenteritis or vomiting. Nevertheless, children should be taught to avoid eating these plants (Spoerke and Smolinske 1990).

### **References:**

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: jimsonweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### **General poisoning notes:**

Jimsonweed (*Datura stramonium*) is a naturalized annual herb found across most of southern Canada. This plant contains toxic tropane alkaloids, which have caused poisoning and death in humans and other animals. Jimsonweed is named for a case of human poisoning in Jamestown, Va., when soldiers were poisoned by eating the plant in a salad and then suffered delirium and hallucinations. The seeds and leaves are deliberately used to induce intoxication. Children are attracted by the large flowers and become poisoned after sucking the nectar from the base of flowers or ingesting the seeds. Occurrences of human poisoning are more frequent than livestock poisoning in recent literature reports. Animals of all types can be poisoned. The literature mentions poisoning of cattle, goats, horses, poultry, sheep, and swine. Because of the plant's strong odor and unpleasant taste, animals consume it only when other food is not available. The seeds are sometimes milled with other seeds and have caused problems (Cooper and Johnson 1984, Cheeke and Schull 1985, Lampe and McCann 1985).

### **References:**

- Callahan, R., Piccola, F., Gensheimer, K., Parkin, W. E., Prusakowski, J., Scheiber, G., Henry, S. 1981. Epidemiologic notes and reports. Plant poisonings - New Jersey. U.S. Dep. Health Hum. M. M. W. R., 30: 65-67.
- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.
- El Dirdiri, N. I., Wasfi, I. A., Adam, S. E., Edds, G. T. 1981. Toxicity of *Datura stramonium* to sheep and goats. Vet. Hum. Toxicol., 23: 241-246.
- Goldberg, R. E. 1951. The jimsonweed menace. Today's Health, 29: 38-39, 66.
- Hughes, J. D., Clark, J. A. 1939. *Stramonium* poisoning. J. Am.

Med. Assoc., 112: 2500-2502.

Jacobziner, H., Raybin, H. W. 1961. Fatal salicylate intoxication and stramonium poisoning. N. Y. State J. Med., 61: 301-303.

Keeler, R. F. 1981. Absence of arthrogryposis in newborn Hampshire pigs from sows ingesting toxic levels of jimsonweed during gestation. Vet. Hum. Toxicol., 23: 413-415.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Mitchell, J. E., Mitchell, F. N. 1955. Jimson weed (*Datura stramonium*) poisoning in childhood. J. Pediatr., 47: 227-230.

Moore, D. W. 1976. The autumnal high: jimsonweed in North Carolina. N. C. Med. J., 37: 492-494.

Nelson, P. D., Mercer, H. D., Essig, H. W., Minyard, J. P. 1982. Jimson weed seed toxicity in cattle. Vet. Hum. Toxicol., 24: 321-325.

Stiles, F. C. 1951. Stramonium poisoning. J. Pediatr., 39: 354-356.

### **Nomenclature:**

Scientific Name: *Datura stramonium* L.

Vernacular name(s): jimsonweed

Scientific family name: *Solanaceae*

Vernacular family name: nightshade

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Datura stramonium](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.



Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

jimsonweed:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The entire plant contains alkaloids, but the leaves and seeds are the usual sources of poisoning in humans and other animals. Even the nectar of this plant contains alkaloids that contaminate honey (Cooper and Johnson 1984).

### **Toxic parts:**

all parts  
flowers  
leaves  
mature fruit  
seeds  
stems

### **References:**

Callahan, R., Piccola, F., Gensheimer, K., Parkin, W. E., Prusakowski, J., Scheiber, G., Henry, S. 1981. Epidemiologic notes and reports. Plant poisonings - New Jersey. U.S. Dep. Health Hum. M. M. W. R., 30: 65-67.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery

Office, London, England. 305 pp.

El Dirdiri, N. I., Wasfi, I. A., Adam, S. E., Edds, G. T. 1981. Toxicity of *Datura stramonium* to sheep and goats. *Vet. Hum. Toxicol.*, 23: 241-246.

Hughes, J. D., Clark, J. A. 1939. *Stramonium* poisoning. *J. Am. Med. Assoc.*, 112: 2500-2502.

Jacobziner, H., Raybin, H. W. 1961. Fatal salicylate intoxication and stramonium poisoning. *N. Y. State J. Med.*, 61: 301-303.

Keeler, R. F. 1981. Absence of arthrogryposis in newborn Hampshire pigs from sows ingesting toxic levels of jimsonweed during gestation. *Vet. Hum. Toxicol.*, 23: 413-415.

Mitchell, J. E., Mitchell, F. N. 1955. Jimson weed (*Datura stramonium*) poisoning in childhood. *J. Pediatr.*, 47: 227-230.

Nelson, P. D., Mercer, H. D., Essig, H. W., Minyard, J. P. 1982. Jimson weed seed toxicity in cattle. *Vet. Hum. Toxicol.*, 24: 321-325.

Stiles, F. C. 1951. Stramonium poisoning. *J. Pediatr.*, 39: 354-356.

#### **Notes on Toxic plant chemicals:**

Several tropane alkaloids including hyoscyamine, hyoscine (also called scopolamine), and traces of atropine are found in the plant. The total alkaloid content in the plant varies from 0.25 to 0.7%. The alkaloids are found even in the nectar and can contaminate honey (Cooper and Johnson 1984, Cheeke and Schull 1985).

#### **Toxic plant chemicals:**

atropine  
hyoscine(scopolamine)  
hyoscyamine

#### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Jacobziner, H., Raybin, H. W. 1961. Fatal salicylate intoxication and stramonium poisoning. *N. Y. State J. Med.*, 61: 301-303.

Keeler, R. F. 1981. Absence of arthrogryposis in newborn Hampshire pigs from sows ingesting toxic levels of jimsonweed during gestation. *Vet. Hum. Toxicol.*, 23: 413-415.

Moore, D. W. 1976. The autumnal high: jimsonweed in North Carolina. *N. C. Med. J.*, 37: 492-494.

Nelson, P. D., Mercer, H. D., Essig, H. W., Minyard, J. P. 1982. Jimson weed seed toxicity in cattle. *Vet. Hum. Toxicol.*, 24: 321-325.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[anorexia](#)

[bloat](#)

[muzzle, dry](#)

[pupils, pinpoint](#)

[tenesmus](#)

#### **Notes on poisoning:**

Symptoms in cattle include incoordination, restlessness, and increased respiration rate. Nelson et al. (1982) conducted feeding experiments on heifers that were fed a normal diet with varying amounts of jimsonweed seeds added. The seeds contained 0.26% atropine and 0.55% hyoscine. Death of cattle seemed unlikely because rumen atony and anorexia limited intake of the feed to below lethal levels. The toxic dosage is about 2.9 mg of atropine and 0.5 mg of hyoscine per kilogram of body weight, which is about 107 seeds per kilogram of body weight.

#### **References:**

Cheeke, P. R., Shull, L. R. 1985. *Natural toxicants in feeds and poisonous plants*. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Nelson, P. D., Mercer, H. D., Essig, H. W., Minyard, J. P. 1982. Jimson weed seed toxicity in cattle. *Vet. Hum. Toxicol.*, 24: 321-325.

### **Chickens**

#### **General symptoms of poisoning:**

[weight gain, reduced](#)

#### **References:**

Cheeke, P. R., Shull, L. R. 1985. *Natural toxicants in feeds and poisonous plants*. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

## Goats

### General symptoms of poisoning:

[breathing, rapid](#)  
[death](#)  
[drowsiness](#)  
[incoordination](#)  
[recumbency](#)  
[reflex excitability](#)  
[trembling](#)  
[water intake, reduced](#)

### Notes on poisoning:

Goats have been poisoned by consuming jimsonweed. Experimental feeding of fresh leaves and fruit caused locomotion disturbances, tremors, drowsiness, and recumbency. Postmortem findings showed lung congestion, hemorrhagic and fatty liver, and heart dilation with hemorrhaging. The renal cortex was pale yellow and the medulla hemorrhagic. The cells of many renal tubes had also degenerated (El Dirdiri et al. 1981).

### References:

El Dirdiri, N. I., Wasfi, I. A., Adam, S. E., Edds, G. T. 1981. Toxicity of *Datura stramonium* to sheep and goats. Vet. Hum. Toxicol., 23: 241-246.

## Horses

### General symptoms of poisoning:

[anorexia](#)  
[breathing, rapid](#)  
[diarrhea](#)  
[heart rate, elevated](#)  
[pupil dilation](#)  
[thirsty](#)

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

## Humans

### General symptoms of poisoning:

[agitation](#)  
[babinski reflex](#)  
[choreiform movement](#)  
[confusion](#)  
[convulsions](#)

[death](#)  
[dizziness](#)  
[drowsiness](#)  
[faintness](#)  
[gait, unsteady](#)  
[hallucination](#)  
[heart rate, elevated](#)  
[inebriation](#)  
[memory loss](#)  
[mouth dry](#)  
[nausea](#)  
[pupil dilation](#)  
[reflex excitability](#)  
[skin, dry](#)  
[skin, flushed](#)  
[speech, slurred](#)  
[temperature, elevated](#)  
[thirsty](#)  
[unconsciousness](#)  
[urination, absent](#)  
[vision, impaired](#)

**Notes on poisoning:**

Symptoms of *Datura* species poisoning include dry mouth, mydriasis, dry and warm skin, sometimes with reddening of the face and neck. Hallucinations are common, along with blurred vision, random movements, nausea, delirium, and sometimes coma and death. Tachycardia and elevated temperatures occur. Treatment with physostigmine is recommended at 0.5 mg for children and 2 mg for adults (Moore 1976, Cooper and Johnson 1984, Lampe and McCann 1985).

**References:**

- Callahan, R., Piccola, F., Gensheimer, K., Parkin, W. E., Prusakowski, J., Scheiber, G., Henry, S. 1981. Epidemiologic notes and reports. Plant poisonings - New Jersey. U.S. Dep. Health Hum. M. M. W. R., 30: 65-67.
- Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.
- Goldberg, R. E. 1951. The jimsonweed menace. Today's Health, 29: 38-39, 66.
- Hughes, J. D., Clark, J. A. 1939. *Stramonium* poisoning. J. Am. Med. Assoc., 112: 2500-2502.
- Jacobziner, H., Raybin, H. W. 1961. Fatal salicylate intoxication and stramonium poisoning. N. Y. State J. Med., 61: 301-303.
- Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA.

432 pp.

Mitchell, J. E., Mitchell, F. N. 1955. Jimson weed (*Datura stramonium*) poisoning in childhood. *J. Pediatr.*, 47: 227-230.

Moore, D. W. 1976. The autumnal high: jimsonweed in North Carolina. *N. C. Med. J.*, 37: 492-494.

Stiles, F. C. 1951. Stramonium poisoning. *J. Pediatr.*, 39: 354-356.

## Sheep

### General symptoms of poisoning:

[ataxia](#)

[breathing, rapid](#)

[collapse](#)

[dyspnea](#)

[gait, unsteady](#)

[incoordination](#)

[recumbency](#)

[reflex excitability](#)

[trembling](#)

[water intake, reduced](#)

### Notes on poisoning:

Jimsonweed poisoning in sheep causes symptoms such as locomotion disturbances, rapid respiration, inability to stand and death. Sheep that were experimentally fed fresh leaves and fruits became ill and died (El Dirdiri et al. 1981). Postmortem examination showed lung congestion, a dilated heart, and hemorrhagic, fatty liver. The renal cortex was pale yellow and the medulla was hemorrhagic. Sheep that received 10 g/kg/day died within 38 days.

### References:

El Dirdiri, N. I., Wasfi, I. A., Adam, S. E., Edds, G. T. 1981. Toxicity of *Datura stramonium* to sheep and goats. *Vet. Hum. Toxicol.*, 23: 241-246.

## Swine

### General symptoms of poisoning:

[depression](#)

[gait, rigid](#)

[incoordination](#)

[lethargy](#)

[pupil dilation](#)

### Notes on poisoning:

Swine exhibit symptoms of incoordination, stiff gait, pupil dilation,

and drowsiness. Earlier reports had suggested that jimsonweed ingested by pregnant sows might cause arthrogryposis in newborn pigs, but Keeler (1981) determined that this was not the case after feeding experiments. Other studies have found that pigs tolerated, with little effect, and alkaloid intake of 2.2 mg/kg of body weight from seeds containing 0.2-0.6% alkaloid content. Because of the unpalatability of jimsonweed seeds, the feed is rejected and therefore lethal quantities are not likely to be ingested (Cheeke and Schull 1985).

### **References:**

Keeler, R. F. 1981. Absence of arthrogryposis in newborn Hampshire pigs from sows ingesting toxic levels of jimsonweed during gestation. *Vet. Hum. Toxicol.*, 23: 413-415.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Johnson grass](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Johnson grass (*Sorghum halepense*) is a naturalized herb found as a weed in only a few counties of southwestern Ontario. This plant can produce toxic quantities of HCN if it is damaged through frost, mastication, or water stress. Johnson grass can also accumulate toxic amounts of nitrate under certain circumstances. Cattle and a horse were poisoned after ingesting Johnson grass. Plants are spread from rhizomes but susceptibility to severe frost has limited the plants to a few counties in southwestern Ontario. The grass is found in fields and field edges. Toxicity is not likely, but ingesting large quantities of Johnson grass can cause problems (Gray et al. 1968, Clay et al. 1976, Warwick and Black 1983).

### References:

Clay, B. R., Edwards, W. C., Peterson, D. R. 1976. Toxic nitrate accumulation in the sorghums. *Bovine Pract.*, 11: 28-32.

Gray, E., Rice, J. S., Wattenbarger, D., Benson, J. A., Hester, A. J., Loyd, R. C., Greene, B. M. 1968. Hydrocyanic acid potential of *Sorghum* plants grown in Tennessee. *Tenn. Agric. Exp. Stn. Bull.*, 445. 48 pp.

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. *Univ. MD. Agric. Exp. Stn. Bull.*, A10. 312 pp.

Warwick, S. I., Black, L. D. 1983. The biology of Canadian weeds. 61. *Sorghum halepense* (L.) Pers. *Can. J. Plant Sci.*, 63: 997-1014.

### Nomenclature:

Scientific Name: *Sorghum halepense* (L.) Pers.

Vernacular name(s): Johnson grass

Scientific family name: *Gramineae*

Vernacular family name: grass

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Sorghum halepense](#)



## References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

## Geographic Information

Ontario

## References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## Image or illustration

Johnson grass:

Images: [images.google.com](http://images.google.com)

## Notes on Poisonous plant parts:

The hydrocyanic potential of Johnson grass is largest during early growth of the plant (Gray et al. 1968).

## Toxic parts:

leaves  
stems

## References:

Gray, E., Rice, J. S., Wattenbarger, D., Benson, J. A., Hester, A. J., Loyd, R. C., Greene, B. M. 1968. Hydrocyanic acid potential of



Loyd, R. C., Greene, B. M. 1968. Hydrocyanic acid potential of *Sorghum* plants grown in Tennessee. Tenn. Agric. Exp. Stn. Bull., 445. 48 pp.

Sharma, R. P., Salunkhe, D. K. 1989. *Solanum* glycoalkaloids. Pages 179-236 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[abortion](#)

[breathing, rapid](#)

[death](#)

[death by asphyxiation](#)

[gait, staggering](#)

[methemoglobinemia](#)

[mouth, frothing of](#)

#### **Notes on poisoning:**

Johnson grass can accumulate toxic levels of nitrates, which leads to methemoglobinemia. In severe cases, death can occur 4-6 h after ingestion. Three to five days after acute poisoning, surviving pregnant animals may abort (Clay et al. 1976). Dhurrin, a cyanogenic glycoside, is found in plant material. When the plant is damaged by frost, mastication, or water stress, HCN can be released and cyanide can enter the animal's system. Symptoms are the result of cytotoxic hypoxia, leading in severe cases to death from asphyxiation. Other symptoms include increased respiration, irregular pulse, frothing at the mouth, and staggering (Gray et al. 1968, Fuller and McClintock 1986).

#### **References:**

Clay, B. R., Edwards, W. C., Peterson, D. R. 1976. Toxic nitrate accumulation in the sorghums. Bovine Pract., 11: 28-32.

Gray, E., Rice, J. S., Wattenbarger, D., Benson, J. A., Hester, A. J., Loyd, R. C., Greene, B. M. 1968. Hydrocyanic acid potential of *Sorghum* plants grown in Tennessee. Tenn. Agric. Exp. Stn. Bull., 445. 48 pp.

### **Horses**

#### **General symptoms of poisoning:**

[death by asphyxiation](#)

### **Notes on poisoning:**

In Maryland a horse died from cyanide poisoning after ingesting Johnson grass (Reynard and Norton 1942).

### **References:**

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

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[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: Kaffir lily](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### **General poisoning notes:**

Kaffir lily (*Clivia miniata*) is an indoor ornamental plant grown for its flowers. The plant contains small amounts of the alkaloid lycorine. Large quantities must be ingested to cause symptoms of toxicity. Children and family pets can be poisoned (Frohne and Pfander 1983, Lampe and McCann 1985).

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Nomenclature:**

Scientific Name: *Clivia miniata* Regel

Vernacular name(s): Kaffir lily

Scientific family name: *Amaryllidaceae*

Vernacular family name: amaryllis

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Kaffir lily:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bulbs

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Notes on Toxic plant chemicals:**

Lycorine has been found in quantities of 0.43% (dry weight) in the Kaffir lily. The greatest concentration of the alkaloid is in the bulb (Frohne and Pfander 1983).

### **Toxic plant chemicals:**

lycorine

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the

literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[collapse](#)

[diarrhea](#)

[paralysis](#)

[salivation](#)

[vomiting](#)

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Kentucky coffeetree](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Kentucky coffeetree (*Gymnocladus dioicus*) is a tree that is occasionally planted as an ornamental in the warmer parts of Canada. The seeds and fruit pulp of this tree have poisoned humans and cattle. The foliage has caused the death of sheep in Maryland (Reynard and Norton 1942, Lampe and McCann 1985).

### References:

Hill, S. R., Duke, P. K. 1986. 100 poisonous plants of Maryland. Univ. MD. Coop. Ext. Serv. Bull., 314. 55 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

### Nomenclature:

Scientific Name: *Gymnocladus dioicus* (L.) K. Koch

Vernacular name(s): Kentucky coffeetree

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Gymnocladus dioicus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.



Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Kentucky coffeetree:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The seeds contain a low concentration of the alkaloid cytisine, and chewing one or two seeds would not be enough to produce toxic results. This tree is an ornamental that survives and produces seeds in the warmer parts of the country; it grows successfully in Ottawa. In feeding experiments the foliage has proved to be toxic to sheep and the seeds to cattle (Reynard and Norton 1942, Lampe and McCann 1985).

### **Toxic parts:**

leaves  
seeds

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

### **Toxic plant chemicals:**

cytisine

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[lungs, congestion of](#)

#### **Notes on poisoning:**

Experimental feeding of seeds to cattle has caused congestion of the lungs and the fourth stomach (Reynard and Norton 1942).

#### **References:**

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

### **Humans**

#### **General symptoms of poisoning:**

[coma](#)

[diarrhea](#)

[gastroenteritis](#)

[nausea](#)

[sweating](#)

#### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Sheep**

#### **General symptoms of poisoning:**

[death](#)

#### **Notes on poisoning:**

In one case in Maryland, 11 sheep died within 24 h of ingesting fresh cuttings from the Kentucky coffeetree (Hill and Duke 1985).

**References:**

Hill, S. R., Duke, P. K. 1986. 100 poisonous plants of Maryland. Univ. MD. Coop. Ext. Serv. Bull., 314. 55 pp.

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[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: kochia](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

*Kochia (Kochia scoparia)* is both naturalized and cultivated as an outdoor ornamental in various parts of Canada. Ingestion has caused poisoning in cattle, horses, and sheep. Hepatogenous photosensitivity and liver damage often occur together, along with the outward signs of photosensitization. In addition, polioencephalomalacia, toxic hepatitis, and nephrosis can occur. *Kochia* has been examined as a forage crop because it is very drought-tolerant. Toxicity varies from one year to the next. Increased rainfall has raised the oxalate content of the plants. Oxalates are at least partly responsible for the complicated toxic affects of *kochia* ingestion (Galitzer and Oehme 1978, Dickie and Berryman 1979, Thilsted et al. 1989).

### References:

Dickie, C. W., Berryman, J. R. 1979. Polioencephalomalacia and photosensitization associated with *Kochia scoparia* consumption in range cattle. J. Am. Vet. Med. Assoc., 175: 463-465.

Dickie, C. W., James, L. F. 1983. *Kochia scoparia* poisoning in cattle. J. Am. Vet. Med. Assoc., 183: 765-768.

Galitzer, S. J., Oehme, F. W. 1978. *Kochia scoparia* (L.) Schrad toxicity in cattle: a literature review. Vet. Hum. Toxicol., 20: 421-423.

Johnson, A. E. 1983. Photosensitizing toxins from plants and their biologic effects. Pages 345-359 in Keeler, R. F., Tu, A. T., eds. Handbook of natural toxins. Vol. 1. Plant and Fungal toxins. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

Thilsted, J., Hibbs, C., Kiesling, H., Hallford, D., Kirksey, R., Meininger, A., Tompkins, J. 1989. *Kochia (Kochia scoparia)* toxicosis in cattle: results of four experimental grazing trials. Vet. Hum. Toxicol., 31: 34-41.

### Nomenclature:

Scientific Name: *Kochia scoparia* (L.) Schrad.

Vernacular name(s): kochia

Scientific family name: *Chenopodiaceae*

Vernacular family name: goosefoot

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Kochia scoparia](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Alberta  
British Columbia  
Manitoba  
Nova Scotia  
Ontario  
Quebec  
Saskatchewan

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

kochia:

Images: [images.google.com](http://images.google.com)

### Toxic parts:

flowers  
leaves  
seeds

**References:**

Dickie, C. W., Berryman, J. R. 1979. Polioencephalomalacia and photosensitization associated with *Kochia scoparia* consumption in range cattle. J. Am. Vet. Med. Assoc., 175: 463-465.

Dickie, C. W., James, L. F. 1983. *Kochia scoparia* poisoning in cattle. J. Am. Vet. Med. Assoc., 183: 765-768.

Thilsted, J., Hibbs, C., Kiesling, H., Hallford, D., Kirksey, R., Meininger, A., Tompkins, J. 1989. *Kochia (Kochia scoparia)* toxicosis in cattle: results of four experimental grazing trials. Vet. Hum. Toxicol., 31: 34-41.

**Notes on Toxic plant chemicals:**

*Kochia* has been found to contain total oxalates of up to 11.4% and maximum soluble oxalates of 4.7%. This level of soluble oxalates is sufficient to cause some of the signs of toxicity seen in poisoning. In addition, saponins and alkaloids have been described that may contribute to the complex symptoms of *kochia* ingestion (Dickie et al. 1989, Thilsted et al. 1989).

**Toxic plant chemicals:**

oxalate

**References:**

Dickie, C. W., Gerlach, M. L., Hamar, D. W. 1989. *Kochia scoparia* oxalate content. Vet. Hum. Toxicol., 31: 240-242.

Thilsted, J., Hibbs, C., Kiesling, H., Hallford, D., Kirksey, R., Meininger, A., Tompkins, J. 1989. *Kochia (Kochia scoparia)* toxicosis in cattle: results of four experimental grazing trials. Vet. Hum. Toxicol., 31: 34-41.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[anorexia](#)  
[ataxia](#)  
[blindness](#)  
[breathing, labored](#)  
[death](#)

---

[dehydration](#)  
[depression](#)  
[diarrhea](#)  
[erythema](#)  
[eye, discharge of](#)  
[eyelids, swollen](#)  
[eyes, rolling](#)  
[head, movement of](#)  
[icterus](#)  
[incoordination](#)  
[itchiness](#)  
[lacrimation, severe](#)  
[lethargy](#)  
[liver, congestion of](#)  
[lungs, congestion of](#)  
[muscle spasms](#)  
[muscle, weakness of](#)  
[muzzle, crusty](#)  
[nephrosis, severe](#)  
[opisthotonos](#)  
[polioencephalomalacia](#)  
[recumbency, ventral](#)  
[reflex excitability](#)  
[salivation](#)  
[skin, peeling of](#)  
[teat necrosis of](#)  
[urine, coffee-colored](#)

#### **Notes on poisoning:**

In addition to photosensitization, symptoms can include ataxia, incoordination, muscular spasms, recumbency, and death. Because *Kochia* causes hepatogenous photosensitization, disseminated jaundice is often seen along with enlarged fatty liver (Galitzer and Oehme 1978, Johnson 1983).

#### **References:**

Dickie, C. W., Berryman, J. R. 1979. Polioencephalomalacia and photosensitization associated with *Kochia scoparia* consumption in range cattle. J. Am. Vet. Med. Assoc., 175: 463-465.

Dickie, C. W., James, L. F. 1983. *Kochia scoparia* poisoning in cattle. J. Am. Vet. Med. Assoc., 183: 765-768.

Galitzer, S. J., Oehme, F. W. 1978. *Kochia scoparia* (L.) Schrad toxicity in cattle: a literature review. Vet. Hum. Toxicol., 20: 421-423.

Thilsted, J., Hibbs, C., Kiesling, H., Hallford, D., Kirksey, R., Meininger, A., Tompkins, J. 1989. *Kochia* (*Kochia scoparia*) toxicosis in cattle: results of four experimental grazing trials. Vet. Hum. Toxicol., 31: 34-41.

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[Important Notices](#)





|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: lamb's-quarters](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Lamb's-quarters (*Chenopodium album*) is a naturalized annual herb found in disturbed soils across Canada. This plant can cause sickness and death in livestock if large quantities are ingested. The plants can accumulate both nitrates and soluble oxalates. Cattle and sheep have been poisoned. Humans who consume large quantities of the plant and are subsequently exposed to sunlight suffer photosensitization (Whitehead and Moxon 1952, Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Nomenclature:

Scientific Name: *Chenopodium album* L.

Vernacular name(s): lamb's-quarters

Scientific family name: *Chenopodiaceae*

Vernacular family name: goosefoot

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Chenopodium album](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

lamb's-quarters:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Gilbert, C. S., Eppson, H. F., Bradley, W. B., Beath, O. A. 1946. Nitrate accumulation in cultivated plants and weeds. Univ. Wyo. Agric. Exp. Stn. Bull., 277. 39 pp.

Whitehead, E. I., Moxon, A. L. 1952. Nitrate poisoning. S. D. Agric. Exp. Stn. Bull., 424. 24 pp.

### **Notes on Toxic plant chemicals:**

This plant can accumulate high levels of nitrates and oxalates. The

high oxalate content is thought to be responsible for most cases of poisoning (Cooper and Johnson 1984).

### **Toxic plant chemicals:**

nitrate  
oxalate

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Gilbert, C. S., Eppson, H. F., Bradley, W. B., Beath, O. A. 1946. Nitrate accumulation in cultivated plants and weeds. Univ. Wyo. Agric. Exp. Stn. Bull., 277. 39 pp.

Whitehead, E. I., Moxon, A. L. 1952. Nitrate poisoning. S. D. Agric. Exp. Stn. Bull., 424. 24 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[breathing, shallow](#)  
[death](#)  
[diarrhea](#)  
[recumbency](#)  
[skin, yellow pigment](#)  
[unconsciousness](#)

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Horses**

### **Humans**

### **Sheep**

### **Swine**

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|   |                   |              |                                 |                    |
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| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: large-leaved lupine](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Large-leaved lupine (*Lupinus polyphyllus*) is a native of British Columbia and has been introduced in eastern Canada. This species has been used in developing many of the cultivars of lupines grown in gardens. Davis and Stout (1986) measured quantities of anagyrene that exceeded the minimum necessary to cause crooked calf disease (teratogenic deformities) in calves. The literature does not include any documented cases. Care should be taken to prevent pregnant cattle from feeding on this lupine from day 40 to day 70 of gestation. See additional notes under silky lupine (*Lupinus sericeus*).

### References:

Davis, A. M., Stout, D. M. 1986. Anagyrene in western American lupines. J. Range Manage., 39: 29-30.

Keeler, R. F. 1989. Quinolizidine alkaloids in range and grain lupins. Pages 133-167 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Lupinus polyphyllus* Lindl.

Vernacular name(s): large-leaved lupine

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lupinus polyphyllus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ.,

Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

large-leaved lupine:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Davis, A. M., Stout, D. M. 1986. Anagyrine in western American lupines. J. Range Manage., 39: 29-30.

### **Notes on Toxic plant chemicals:**

Anagyrine, a quinolizidine alkaloid, has been measured in amounts exceeding the minimum 1.44 g/kg required to cause teratogenic effects. A measurement of 6.10 g/kg is reported by Davis and Stout (1986) in the aboveground portion of a plant.

### **Toxic plant chemicals:**

anagryne

**References:**

Davis, A. M., Stout, D. M. 1986. Anagryne in western American lupines. J. Range Manage., 39: 29-30.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[arthrogryposis](#)

[palatoschisis](#)

[scoliosis](#)

[torticollis](#)

**References:**

Keeler, R. F. 1989. Quinolizidine alkaloids in range and grain lupins. Pages 133-167 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

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[Important Notices](#)



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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: leafy spurge](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Leafy spurge (*Euphorbia esula*) is a naturalized herb that grows across southern Canada. The plant is usually not ingested by livestock, but if large amounts are incorporated in hay, poisoning can occur. Sheep are more resistant to leafy spurge, but collapse and death have occurred (Kingsbury 1964). Some humans can develop dermatitis and irritation from the latex.

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Euphorbia esula* L.

Vernacular name(s): leafy spurge

Scientific family name: *Euphorbiaceae*

Vernacular family name: spurge

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Euphorbia esula](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus



Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

leafy spurge:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

latex

### **References:**

Seip, E. H., Hecker, E. 1982. Skin irritant ingenol esters from *Euphorbia esula*. Planta Med., 46: 215-218.

### **Notes on Toxic plant chemicals:**

Seip and Hecker (1982) found ingenol derivatives, which are diterpenes, to be the irritant factors in leafy spurge. Some of the chemicals were weak tumor promoters.

### **Toxic plant chemicals:**

5-deoxyingenol

### **References:**

Seip, E. H., Hecker, E. 1982. Skin irritant ingenol esters from *Euphorbia esula*. Planta Med., 46: 215-218.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**Horses**

**Humans**

**Sheep**

**General symptoms of poisoning:**

[blistering](#)

[death](#)

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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[Important Notices](#)



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## [Notes on poisoning: leatherwood](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Leatherwood (*Dirca palustris*) is a native shrub found in parts of eastern Canada in woodlands. This shrub contains unknown poisonous chemicals that are most potent in the bark. Chewing the bark can cause severe burning in the mouth and can produce a nauseating taste; dermatitis can occur, especially during flowering and fruiting time (Fyles 1920, Lampe and McCann 1985).

### References:

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Dirca palustris* L.

Vernacular name(s): leatherwood

Scientific family name: *Thymelaeaceae*

Vernacular family name: mezereum

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Dirca palustris](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

New Brunswick

Ontario

Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

leatherwood:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bark

### **References:**

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[blistering](#)  
[mouth, irritation of](#)

**References:**

Fyles, F. 1920. Principal poisonous plants of Canada. Can. Dep. Agric. Exp. Farms. Bull. 39. 112 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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## [Notes on poisoning: lily-of-the-valley](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Lily-of-the-valley (*Convallaria majalis*) is a perennial outdoor ornamental herb. The plant contains cardiac glycosides as well as saponins. There are some references in the literature that mention poisoning and death in humans after accidental ingestion of the berries and leaves, and even by drinking the water that the plants were kept in. Frohne and Pfander (1983) suggest that serious cases are unlikely to occur because the glycosides are poorly absorbed. They cast doubt on the report of poisoning by ingesting water that lily-of-the-valley was standing in because experiments with animals did not substantiate these reports. However, in spite of these reservations, some cases of human poisoning are mentioned in the literature, and so these plants should be considered potentially poisonous. Because of the cardiac glycosides and saponins found in this plant, animals that have access to the plant material may be poisoned. Certainly, ingesting large quantities of lily-of-the-valley can cause problems to family pets such as cats and dogs.

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### Nomenclature:

Scientific Name: *Convallaria majalis* L.

Vernacular name(s): lily-of-the-valley

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Convallaria majalis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du

Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

lily-of-the-valley:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
flowers  
leaves  
mature fruit  
roots

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Notes on Toxic plant chemicals:**

Convallotoxin is one of the most toxic naturally occurring

substances affecting the heart. These glycosides cause irregularities in heart action (Cooper and Johnson 1984).

**Toxic plant chemicals:**

convallatoxin  
convalloside

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Joubert, J. P. 1989. Cardiac glycosides. Pages 61-97 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cats**

**Dogs**

**Humans**

**General symptoms of poisoning:**

[abdominal pains](#)

[gastroenteritis](#)

[headache](#)

[nausea](#)

[pupil dilation](#)

[vomiting](#)

**Notes on poisoning:**

Symptoms of ingestion include irregular heart rate and cold and clammy skin. Coma and death from heart failure may occur if enough plant material is ingested (Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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## [Notes on poisoning: locoweed \(\*Oxytropis sericea\*\)](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



### **General poisoning notes:**

Locoweed (*Oxytropis sericea*) is a native herb in western Canada. This plant has caused a number of problems in cattle, horses, and sheep. Swainsonine, an indolizidine alkaloid, inhibits alpha-mannosidase in animal bodies, which can lead to disruption of cellular function. Locoism is a chronic disease that causes depression, incoordination, and nervousness under stress. Death can result. The cellular problems occur most readily in tissues of the nervous system. Pregnant animals often abort or give birth to young with congenital deformities. Congestive right heart disease occurs at high altitudes (above 2190 m) in cattle. Right ventricular hypertrophy and dilation, subcutaneous edema, and pulmonary hypertension are significant symptoms (James 1983, Cheeke and Schull 1985, James et al. 1986, Panter et al. 1988).

### **References:**

- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- James, L. F., Hartley, W. J., Nielsen, D., Allen, S., Panter, K. E. 1986. Locoweed (*Oxytropis sericea*) poisoning and congestive heart failure in cattle. J. Am. Vet. Med. Assoc., 189: 1549-1556.
- James, L. F. 1983. Neurotoxins and other toxins from *Astragalus* and related genera. Pages 445-462 in Keeler, R. F., Tu, A. T., eds. Handbook of natural toxins. Vol. 1. Plant and Fungal toxins. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.
- Panter, K. E., James, L. F., Nielson, D., Molyneux, R. J., Ralphs, M. H. 1988. The relationship of *Oxytropis sericea* (green and dry) and *Astragalus lentiginosus* with high mountain disease in cattle. Vet. Hum. Toxicol., 30: 318-323.
- Ralphs, M. H., James, L. F., Nielsen, D. B., Panter, K. E. 1984. Management practices reduce cattle loss to locoweed on high mountain range. Rangelands, 6: 175-177.
- Ralphs, M. H., James, L. F., Pfister, J. A. 1986. Utilization of white locoweed (*Oxytropis sericea* Nutt.) by range cattle. J. Range Manage., 39: 344-347.

### **Nomenclature:**

Scientific Name: *Oxytropis sericea* Nutt.

Vernacular name(s): locoweed (*Oxytropis sericea*)

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Oxytropis sericea](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

locoweed (*Oxytropis sericea*):

**Images:** [images.google.com](http://images.google.com)

**Notes on Poisonous plant parts:**

The blooms and mature fruit of locoweed have higher quantities of the toxin swainsonine than do the leaves. The concentration of this toxin remains constant in leaves throughout the grazing season (Ralphs et al. 1986.)

**Toxic parts:**

flowers  
leaves  
mature fruit  
seeds  
stems

**References:**

James, L. F., Hartley, W. J., Nielsen, D., Allen, S., Panter, K. E. 1986. Locoweed (*Oxytropis sericea*) poisoning and congestive heart failure in cattle. J. Am. Vet. Med. Assoc., 189: 1549-1556.

James, L. F. 1983. Neurotoxins and other toxins from *Astragalus* and related genera. Pages 445-462 in Keeler, R. F., Tu, A. T., eds. Handbook of natural toxins. Vol. 1. Plant and Fungal toxins. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

Panter, K. E., James, L. F., Nielson, D., Molyneux, R. J., Ralphs, M. H. 1988. The relationship of *Oxytropis sericea* (green and dry) and *Astragalus lentiginosus* with high mountain disease in cattle. Vet. Hum. Toxicol., 30: 318-323.

Ralphs, M. H., James, L. F., Nielsen, D. B., Panter, K. E. 1984. Management practices reduce cattle loss to locoweed on high mountain range. Rangelands, 6: 175-177.

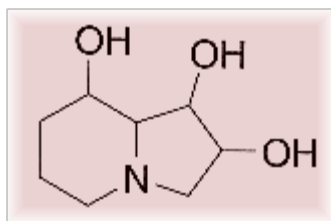
Ralphs, M. H., James, L. F., Pfister, J. A. 1986. Utilization of white locoweed (*Oxytropis sericea* Nutt.) by range cattle. J. Range Manage., 39: 344-347.

**Notes on Toxic plant chemicals:**

Swainsonine, an indolizidine alkaloid, inhibits alpha-mannosidase in the animal's body. Inhibition results in the accumulation of oligosaccharides in cells because glycosidases remove their respective sugars until a mannose residue is reached. Hydrolysis of the carbohydrate then stops. Eventually disruption of cellular function results. The effect of swainsonine on alpha-mannosidase is reversible when locoweed is no longer consumed. However, advanced clinical signs are irreversible because axon degeneration occurs. The central nervous system is most sensitive to mannose accumulation (Cheeke and Schull 1985).

**Toxic plant chemicals:**

slaframine  
swainsonine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Molyneux, R. J., James, L. F. 1982. Loco intoxication: indolizidine alkaloids of spotted locoweed (*Astragalus lentiginosus*). Science (Wash. D. C.), 216: 190-191.

Ralphy, M. H., James, L. F., Pfister, J. A. 1986. Utilization of white locoweed (*Oxytropis sericea* Nutt.) by range cattle. J. Range Manage., 39: 344-347.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Cattle

#### General symptoms of poisoning:

[abdominal edema](#)  
[belligerence](#)  
[coat, rough and dry](#)  
[death](#)  
[depression](#)  
[diarrhea](#)  
[duodenum, edema of](#)  
[eyes, dull](#)  
[gall bladder, enlarged](#)  
[incoordination](#)  
[jaw \(lower\), edema of](#)  
[thorax \(ventral\), edema](#)  
[throat, edema of](#)  
[ventricular\(right\), edema](#)

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn.,

USA. 492 pp.

James, L. F., Hartley, W. J., Nielsen, D., Allen, S., Panter, K. E. 1986. Locoweed (*Oxytropis sericea*) poisoning and congestive heart failure in cattle. J. Am. Vet. Med. Assoc., 189: 1549-1556.

Panter, K. E., James, L. F., Nielson, D., Molyneux, R. J., Ralphs, M. H. 1988. The relationship of *Oxytropis sericea* (green and dry) and *Astragalus lentiginosus* with high mountain disease in cattle. Vet. Hum. Toxicol., 30: 318-323.

Ralphs, M. H., James, L. F., Nielsen, D. B., Panter, K. E. 1984. Management practices reduce cattle loss to locoweed on high mountain range. Rangelands, 6: 175-177.

## Horses

### General symptoms of poisoning:

[arthrogryposis](#)  
[coat, rough and dry](#)  
[depression](#)  
[gait, unsteady](#)  
[incoordination](#)  
[nervousness](#)

### References:

James, L. F. 1983. Neurotoxins and other toxins from *Astragalus* and related genera. Pages 445-462 in Keeler, R. F., Tu, A. T., eds. Handbook of natural toxins. Vol. 1. Plant and Fungal toxins. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

## Sheep

### General symptoms of poisoning:

[abortion](#)  
[carpal joint, flexure](#)  
[coat, rough and dry](#)  
[death](#)  
[depression](#)  
[eyes, dull](#)  
[incoordination](#)  
[nervousness](#)  
[recumbency](#)

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

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| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: low larkspur](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Low larkspur (*Delphinium bicolor*) is a native herb found in southern parts of western Canada. This plant has poisoned cattle, symptoms are similar to those caused by tall larkspur ([Delphinium glaucum](#).)

### References:

Olsen, J. D., Manners, G. D. 1989. Toxicology of diterpenoid alkaloids in rangeland larkspur (*Delphinium* spp.). Pages 291-326 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Delphinium bicolor* Nutt.

Vernacular name(s): low larkspur

Scientific family name: *Ranunculaceae*

Vernacular family name: crowfoot

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Delphinium bicolor](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.



Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

low larkspur:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

See additional information under general notes of [Delphinium glaucum](#).

### **Toxic parts:**

leaves  
seeds

### **References:**

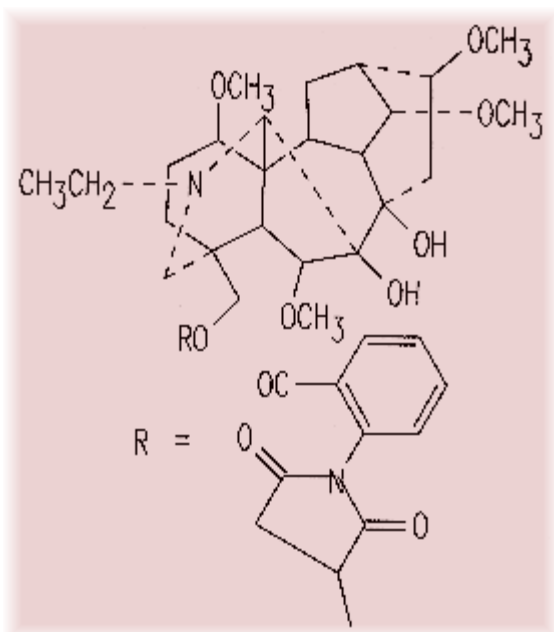
Olsen, J. D., Manners, G. D. 1989. Toxicology of diterpenoid alkaloids in rangeland larkspur (*Delphinium* spp.). Pages 291-326 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Notes on Toxic plant chemicals:**

See additional information under general notes of [Delphinium glaucum](#).

### **Toxic plant chemicals:**

methyllycaconitine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Olsen, J. D., Manners, G. D. 1989. Toxicology of diterpenoid alkaloids in rangeland larkspur (*Delphinium* spp.). Pages 291-326 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

#### General symptoms of poisoning:

[bloat](#)  
[constipation](#)  
[death by asphyxiation](#)  
[paralysis](#)  
[salivation](#)  
[weakness](#)

### References:

Olsen, J. D., Manners, G. D. 1989. Toxicology of diterpenoid alkaloids in rangeland larkspur (*Delphinium* spp.). Pages 291-326 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Horses

## Sheep

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: maidenhair tree](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Ginkgo (*Ginkgo biloba*) is an ornamental tree growing in the warmer parts of Canada. This plant is of botanical interest because it is the sole survivor of the order Ginkgoales, with fossil evidence tracing back over 200 million years. The tree now survives only in cultivation. The trees are planted for their beautifully shaped leaves, which turn an attractive yellow in autumn. Usually only male trees are planted because the fleshy pulp on the fruits develop an obnoxious smell resembling rancid butter when the pulp is deteriorating on the ground. The interior kernel of the fruit is considered a delicacy by people of Chinese, Japanese, and southeast Asian descent. Contact dermatitis occurs in sensitive individuals when they remove the fleshy pulp from the seeds in the autumn. Children who handle the attractive yellow fruits may develop dermatitis. The pulp is also used as a folk medicine in China and Japan. The crude extract contains a toxin that causes convulsions and death if used in excess. This type of poisoning is unlikely unless the extract (gin-nan) is available in Canada.

### References:

Lepoittevin, J.-P., Benezra, C., Asakawa, Y. 1989. Allergic contact dermatitis to *Ginkgo biloba* L.: relationship with urushiol. Arch. Dermatol. Res., 281: 227-230.

Tomb, R. R., Foussereau, J., Sell, Y. 1988. Mini-epidemic of contact dermatitis from ginkgo tree fruit (*Ginkgo biloba* L.). Contact Dermatitis, 19: 281-283.

Wada, K., Ishigaki, S., Ueda, K., Take, Y., Sasaki, K., Sakata, M., Haga, M. 1988. Studies on the constitution of edible and medicinal plants. 1. Isolation and identification of 4-O-methylpyridoxine, toxic principle from the seed of *Ginkgo biloba* L. Chem. Pharm. Bull. (Tokyo), 36: 1779-1782.

### Nomenclature:

Scientific Name: *Ginkgo biloba* L.

Vernacular name(s): maidenhair tree

Scientific family name: *Ginkgoaceae*

Vernacular family name: ginkgo

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Ginkgo biloba](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Plant or plant parts used in or around the home.

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

maidenhair tree:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

The endosperm (the food storage tissues) of the seeds contains a chemical that can cause convulsions and death in humans if taken in excessive quantities. The Chinese and Japanese use a crude extract of ginkgo seed, called gin-nan, as an antitussive and expectorant in folk medicine. Excessive use of this extract has caused gin-nan food poisoning in China and Japan. Some deaths have occurred. Ginkgo seeds can be obtained in specialized food stores, and ginkgo trees grow and bear fruit at least in some areas of the country, such as

Ottawa. The seeds are often picked by Chinese and Japanese for food consumption. The seed coat and the fruit pulp of ginkgo can cause allergic contact dermatitis. This most often happens when the fruit pulp is removed to get at the seed, which is considered a delicacy in Chinese and Japanese cooking (Nakamura 1985).

**Toxic parts:**

mature fruit  
seeds

**References:**

Lepoittevin, J.-P., Benezra, C., Asakawa, Y. 1989. Allergic contact dermatitis to *Ginkgo biloba* L.: relationship with urushiol. Arch. Dermatol. Res., 281: 227-230.

Tomb, R. R., Foussereau, J., Sell, Y. 1988. Mini-epidemic of contact dermatitis from ginkgo tree fruit (*Ginkgo biloba* L.). Contact Dermatitis, 19: 281-283.

Wada, K., Ishigaki, S., Ueda, K., Take, Y., Sasaki, K., Sakata, M., Haga, M. 1988. Studies on the constitution of edible and medicinal plants. 1. Isolation and identification of 4-O-methylpyridoxine, toxic principle from the seed of *Ginkgo biloba* L. Chem. Pharm. Bull. (Tokyo), 36: 1779-1782.

**Notes on Toxic plant chemicals:**

4-O-Methylpyridoxine is a chemical that has an antivitamin B6 activity. This chemical is found in the endosperm (the food storage tissue) of the seeds. The chemical causes convulsions in guinea pigs at oral doses of 11 mg/kg. 4-O-Methylpyridoxine also inhibits the formation of 4-aminobutyric acid from glutamate, which might induce seizures (Wada et al. 1988). Ginkgolic acids 1 are aromatic compounds found in the pulpy exterior of the fruit of ginkgo. These chemicals cause allergic contact dermatitis. Lepoittevin et al. (1989) determined that despite the close structure between ginkgolic acids 1 and the components of urushiol 4 (the allergen of poison-ivy), the hypothesis that the acids transform into catechol 4 in vivo (as with poison-ivy) cannot be supported. Cross-reactivity between ginkgo and urushiol did not occur when tested on guinea pigs.

**Toxic plant chemicals:**

ginkgolic acids 1  
4-O-methylpyridoxine

**References:**

Lepoittevin, J.-P., Benezra, C., Asakawa, Y. 1989. Allergic contact dermatitis to *Ginkgo biloba* L.: relationship with urushiol. Arch. Dermatol. Res., 281: 227-230.

Wada, K., Ishigaki, S., Ueda, K., Take, Y., Sasaki, K., Sakata, M.,

Haga, M. 1988. Studies on the constitution of edible and medicinal plants. 1. Isolation and identification of 4-O-methylpyridoxine, toxic principle from the seed of *Ginkgo biloba* L. Chem. Pharm. Bull. (Tokyo), 36: 1779-1782.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

#### **General symptoms of poisoning:**

[convulsions](#)  
[death](#)  
[erythema](#)  
[unconsciousness](#)

#### **Notes on poisoning:**

A crude extract of ginkgo seeds is used in folk medicine in China and Japan. Excessive use can cause convulsions, unconsciousness, and death. Infants are especially vulnerable (Wada et al. 1988).

#### **References:**

Lepoittevin, J.-P., Benezra, C., Asakawa, Y. 1989. Allergic contact dermatitis to *Ginkgo biloba* L.: relationship with urushiol. Arch. Dermatol. Res., 281: 227-230.

Tomb, R. R., Foussereau, J., Sell, Y. 1988. Mini-epidemic of contact dermatitis from ginkgo tree fruit (*Ginkgo biloba* L.). Contact Dermatitis, 19: 281-283.

Wada, K., Ishigaki, S., Ueda, K., Take, Y., Sasaki, K., Sakata, M., Haga, M. 1988. Studies on the constitution of edible and medicinal plants. 1. Isolation and identification of 4-O-methylpyridoxine, toxic principle from the seed of *Ginkgo biloba* L. Chem. Pharm. Bull. (Tokyo), 36: 1779-1782.

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## [Notes on poisoning: mango](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Mango (*Mangifera indica*) is a tropical fruit that is seasonally available in Canadian food stores. The skin of the fruit and the petiole, by which the fruit is attached to the stem, contain oleoresins. These chemicals are cross-reactive to the catechols contained in poison-ivy plants and in other members of *Rhus* species that cause dermatitis. Humans who are sensitized and develop dermatitis from these plants should be cautious about touching the skin of mangoes. The shells of cashews (*Anacardium occidentale*) are also cross-reactive with catechols of [Rhus species](#). However, cashews shells are removed before the nuts are sold in Canada (Kingsbury 1964, Geller 1989).

### References:

Geller, M. 1989. Poison ivy, mangoes, cashews, and dermatitis. *Ann. Intern. Med.*, 110: 1036-1037.

Kingsbury, J. M. 1964. *Poisonous plants of the United States and Canada*. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Mangifera indica* L.

Vernacular name(s): mango

Scientific family name: *Anacardiaceae*

Vernacular family name: cashew

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Mangifera indica](#)

### References:

Agriculture Quebec. 1975. *Noms des maladies des plantes du Canada/ Names of plant diseases in Canada*. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. *Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada*. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.



Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

mango:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The skin of the fruit and the petiole, by which the fruit is attached to the stem, contain oleoresins (Geller 1989).

### **Toxic parts:**

skin of fruit

### **References:**

Geller, M. 1989. Poison ivy, mangoes, cashews, and dermatitis. Ann. Intern. Med., 110: 1036-1037.

### **Notes on Toxic plant chemicals:**

The oleoresins of the fruit peel (skin) of mango are cross-reactive with the catechols of poison-ivy, *Rhus spp.* (Geller 1989).

### **Toxic plant chemicals:**

oleoresin

### **References:**

Geller, M. 1989. Poison ivy, mangoes, cashews, and dermatitis. Ann. Intern. Med., 110: 1036-1037.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

#### **General symptoms of poisoning:**

[blisters, weeping  
erythema](#)

#### **References:**

Geller, M. 1989. Poison ivy, mangoes, cashews, and dermatitis. Ann. Intern. Med., 110: 1036-1037.

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## [Notes on poisoning: marijuana](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### **General poisoning notes:**

Accidental ingestion of marijuana (*Cannabis sativa*) by pets is an occasional problem. Family pets or young children may accidentally ingest the plant, which may be stored in plastic bags. A dog ingested hashish brownies and then exhibited various symptoms such as hyperactivity, vomiting, somnolence, staggering, and glazed eyes. In another case, in Edmonton, a pet ferret ingested the plant and became comatose after experiencing sneezing bouts and ataxia. Although no fatalities of humans have been reported, the effects on a young child accidentally ingesting marijuana are bound to be very disturbing to the parents (Jones 1978, Smith 1988).

### **References:**

Jones, D. L. 1978. A case of canine cannabis ingestion. N. Z. Vet. J., 26: 135-136.

Smith, R. A. 1988. Coma in a ferret after ingestion of cannabis. Vet. Hum. Toxicol., 30: 486.

### **Nomenclature:**

Scientific Name: *Cannabis sativa* L.

Vernacular name(s): marijuana

Scientific family name: *Cannabaceae*

Vernacular family name: hemp

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Cannabis sativa](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

marijuana:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The resins in the leaves are psychoactive in mammals, including humans. These plants are cultivated indoors and outdoors for human use. The plants can overwinter as seed in warmer parts of the country. The most common form that may be accidentally ingested by humans and pets is marijuana that has been left in houses for illegal human use.

### **Toxic parts:**

flowers  
leaves

### **References:**

Small, E., Cronquist, A. 1976. A practical and natural taxonomy for *Cannabis*. Taxon, 25: 405-435.

### **Notes on Toxic plant chemicals:**

Delta-tetrahydrocannabinol (THC) is the chemical most often cited as causing the psychoactive compound in marijuana. This chemical affects humans and many other mammals. Any children or pets that accidentally ingest quantities of marijuana may show various symptoms, including coma.

**Toxic plant chemicals:**

tetrahydrocannabinol

**References:**

Small, E., Cronquist, A. 1976. A practical and natural taxonomy for *Cannabis*. *Taxon*, 25: 405-435.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Dogs**

**General symptoms of poisoning:**

[agitation](#)

[drowsiness](#)

[gait, staggering](#)

[unconsciousness](#)

[vomiting](#)

**References:**

Jones, D. L. 1978. A case of canine cannabis ingestion. *N. Z. Vet. J.*, 26: 135-136.

**Ferrets**

**General symptoms of poisoning:**

[ataxia](#)

[coma](#)

[temperature, depressed](#)

**References:**

Smith, R. A. 1988. Coma in a ferret after ingestion of cannabis. *Vet. Hum. Toxicol.*, 30: 486.

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|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
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## [Notes on poisoning: marsh arrow-grass](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Marsh arrow-grass (*Triglochin palustre*) is a native plant that is found sporadically across Canada in damp brackish or calcareous places. A cyanogenic glycoside, triglochinin, is found in the plant. This chemical becomes more abundant during times of moisture depletion within the plants. Occasional poisoning occurs with cattle and sheep in the lower Cariboo district of British Columbia (Majak et al. 1980, Looman et al. 1983).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Looman, J., Majak, W., Smoliak, S. 1983. Stock-poisoning plants of western Canada. Agric. Can. Res. Branch Contrib. 1982-7E. 35 pp.

### Nomenclature:

Scientific Name: *Triglochin palustre* L.

Vernacular name(s): marsh arrow-grass

Scientific family name: *Juncaginaceae*

Vernacular family name: arrow-grass

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Triglochin palustre](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

marsh arrow-grass:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

flowers  
leaves

### **References:**

Majak, W., McDiarmid, R. E., Hall, J. W., Van Ryswyk, A. L. 1980. Seasonal variation in the cyanide potential of arrowgrass (*Triglochin maritima*). Can. J. Plant Sci., 60: 1235-1241.

### **Notes on Toxic plant chemicals:**

A cyanogenic glycoside, triglochinin, is found in marsh arrow-

grass. This chemical is also the main toxic component of seaside arrow-grass (Majak et al. 1980).

**Toxic plant chemicals:**

triglochinin

**References:**

Majak, W., McDiarmid, R. E., Hall, J. W., Van Ryswyk, A. L. 1980. Seasonal variation in the cyanide potential of arrowgrass (*Triglochin maritima*). Can. J. Plant Sci., 60: 1235-1241.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[convulsions](#)

[death](#)

[nervousness](#)

[recumbency](#)

[salivation](#)

**Notes on poisoning:**

In all animals, symptoms of poisoning are similar to those of cyanide poisoning, including convulsions, nervousness, trembling, and recumbency, followed by death. The blood is bright red (Looman et al. 1983).

**References:**

Looman, J., Majak, W., Smoliak, S. 1983. Stock-poisoning plants of western Canada. Agric. Can. Res. Branch Contrib. 1982-7E. 35 pp.

**Sheep**

**General symptoms of poisoning:**

[convulsions](#)

[nervousness](#)

[recumbency](#)

[salivation](#)

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.



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[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: marsh horsetail](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Marsh horsetail (*Equisetum palustre*) is a native horsetail growing across Canada. This plant has poisoned cattle and, rarely, sheep. In addition to thiaminase, it contains an alkaloid, that causes the toxicity (Kingsbury 1964, Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Equisetum palustre* L.

Vernacular name(s): marsh horsetail

Scientific family name: *Equisetaceae*

Vernacular family name: horsetail

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Equisetum palustre](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

marsh horsetail:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Marsh horsetail has separate fertile and sterile stems. Unlike field horsetail, both types of fronds are greenish, with the added fruiting sporangia body on top of the fertile frond.

### **Toxic parts:**

leaves  
stems

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Notes on Toxic plant chemicals:**

Palustrine, an alkaloid, has been found in marsh horsetail. This alkaloid may contribute to the poisoning of cattle by this plant. Thiaminase activity is usually not a problem in ruminants because thiamine is produced in the rumen. Therefore, the presence of alkaloids is suspected to cause the toxic responses. The alkaloid content varies greatly (96-302 mg/100 g of dry weight). Frosted plant material quickly loses most of its alkaloid content, whereas air-dried marsh horsetail can keep its alkaloid content for years (Frohne and Pfander 1983).

### **Toxic plant chemicals:**

palustrine  
thiaminase

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[diarrhea](#)

#### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Horses**

### **Sheep**

#### **General symptoms of poisoning:**

[diarrhea](#)  
[muscle, weakness of](#)  
[sweating](#)

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and

Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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[Important Notices](#)



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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: May-apple](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

May-apple (*Podophyllum peltatum*) is a native herb of moist woods in parts of southeastern Canada. May-apple extracts have been used in folk medicine and pharmaceuticals. Misuse has caused toxic reactions and even fatalities. Workers in the extraction process have developed dermatitis. Ingesting the ripe fruit may, at worst, cause catharsis. Cattle, sheep, and swine have been poisoned after ingesting may-apple vegetation (McIntosh 1928, Rosenstein et al. 1976).

### References:

Cassidy, D. E., Drewry, J., Fanning, J. P. 1982. *Podophyllum* toxicity: a report of a fatal case and a review of the literature. J. Toxicol. Clin. Toxicol., 19: 35-44.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

McIntosh, R. A. 1928. May apple poisoning in a cow. Ont. Vet. Coll. Rep., 29: 18-20.

Rosenstein, G., Rosenstein, H., Freeman, M., Weston, N. 1976. *Podophyllum* - a dangerous laxative. Pediatrics, 57: 419-421.

### Nomenclature:

Scientific Name: *Podophyllum peltatum* L.

Vernacular name(s): May-apple

Scientific family name: *Berberidaceae*

Vernacular family name: barberry

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Podophyllum peltatum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Nova Scotia  
Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

May-apple:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of the plant contain toxic chemicals, although the fruit may cause only slight catharsis. alpha- and beta-peltatin are found in the rhizomes (Rosenstein et al. 1976, Lampe and McCann 1986).

### **Toxic parts:**

all parts  
leaves  
stems

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Rosenstein, G., Rosenstein, H., Freeman, M., Weston, N. 1976.  
Podophyllum - a dangerous laxative. Pediatrics, 57: 419-421.

### **Notes on Toxic plant chemicals:**

The purgative podophylloresin, the glucoside of podophyllotoxin, and alpha- and beta-peltatin produce toxic reactions in animals. The LD-50 of podophyllotoxin, administered orally to mice, is 90 mg/kg (Rosenstein et al. 1976, Lampe and McCann 1986).

### **Toxic plant chemicals:**

alpha- and beta- peltatin  
podophylloresin

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Rosenstein, G., Rosenstein, H., Freeman, M., Weston, N. 1976.  
Podophyllum - a dangerous laxative. Pediatrics, 57: 419-421.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### **Cattle**

#### **General symptoms of poisoning:**

[agitation](#)  
[lacrimation, severe](#)  
[pupil dilation](#)  
[salivation](#)

#### **Notes on poisoning:**

A cow in Ontario experienced toxic symptoms after ingesting may-apple. The symptoms included salivation, moaning, excitation, swollen eyes and muzzle, lacrimation, pupil dilation, and congestion of all visible mucous membranes (McIntosh 1928).

#### **References:**

McIntosh, R. A. 1928. May apple poisoning in a cow. Ont. Vet. Coll. Rep., 29: 18-20.

#### **Humans**

#### **General symptoms of poisoning:**

[catharsis](#)  
[coma](#)



[confusion](#)  
[conjunctivitis](#)  
[death](#)  
[erythema](#)  
[gastroenteritis](#)  
[vomiting](#)

### **Notes on poisoning:**

In humans most cases of poisoning from May-apple have resulted from the use or handling of the pharmaceutical extracts from the plant. Because of its irritant qualities, may-apple has been used topically to remove papilloma and warts. It has also been used as an abortifacient, as shown experimentally with mice and rabbits. The use of these extracts as a laxative in pregnancy has been discouraged. The extracts have been shown to have an antimitotic capacity. In a case of suicide, a man ingested a bottle containing 10-11 g of podophyllum extract. Initially he experienced few symptoms, but after 10 h the patient became confused and comatose; respiration was assisted and the man died after 39 h (Rosenstein et al. 1976, Cassidy et al. 1982).

### **References:**

Cassidy, D. E., Drewry, J., Fanning, J. P. 1982. *Podophyllum* toxicity: a report of a fatal case and a review of the literature. J. Toxicol. Clin. Toxicol., 19: 35-44.

Rosenstein, G., Rosenstein, H., Freeman, M., Weston, N. 1976. Podophyllum - a dangerous laxative. Pediatrics, 57: 419-421.

### **Swine**

### **General symptoms of poisoning:**

[death](#)

### **Notes on poisoning:**

Deaths were reported after few symptoms in swine that ingested young shoots of May-apple (Kingsbury 1964).

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

McIntosh, R. A. 1928. May apple poisoning in a cow. Ont. Vet. Coll. Rep., 29: 18-20.

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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: Menzies larkspur](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Menzies larkspur (*Delphinium menziesii*) is a native herb found on the rangelands of British Columbia. This plant has been implicated in poisoning rangeland cattle. Additional information can be found under general notes of tall larkspur (*Delphinium glaucum*).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### Nomenclature:

Scientific Name: *Delphinium menziesii* DC.

Vernacular name(s): Menzies larkspur

Scientific family name: *Ranunculaceae*

Vernacular family name: crowfoot

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Delphinium menziesii](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Menzies larkspur:

Images: [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
leaves  
seeds

### **References:**

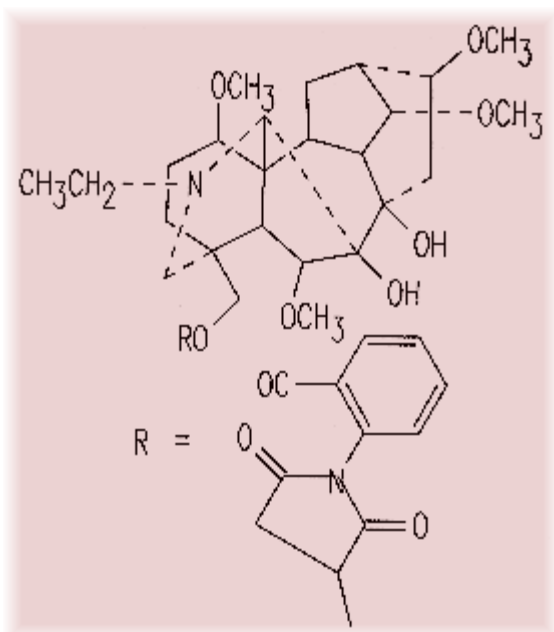
Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Notes on Toxic plant chemicals:**

See additional information under general notes of [Delphinium glaucum](#).

### **Toxic plant chemicals:**

methyllycaconitine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

#### General symptoms of poisoning:

[ataxia](#)  
[bloat](#)  
[constipation](#)  
[death by asphyxiation](#)

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### Horses

### Sheep

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[Important Notices](#)



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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: monk's hood](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Monk's hood (*Aconitum napellus*) is an outdoor ornamental herb. The plant contains poisonous alkaloids, which have proved toxic in humans when accidentally ingested (e.g., aconitine; see Fiddes 1958). Few cases of animal poisoning occur (Kingsbury 1964).

### References:

Fiddes, F. S. 1958. Poisoning by aconitine. Report of two cases. Br. Med. J., 2: 779-780.

### Nomenclature:

Scientific Name: *Aconitum napellus* L.

Vernacular name(s): monk's hood

Scientific family name: *Ranunculaceae*

Vernacular family name: crowfoot

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Aconitum napellus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

monk's hood:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
leaves  
roots

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Toxic plant chemicals:**

aconitine

### **References:**

Bonisteel, W. J. 1940. Polyploidy in relation to chemical analysis. J. Am. Pharm. Assoc., 6: 404-408.

Fiddes, F. S. 1958. Poisoning by aconitine. Report of two cases. Br. Med. J., 2: 779-780.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[agitation](#)

[faintness](#)  
[muscle, weakness of](#)  
[nausea](#)  
[salivation](#)  
[skin, cold and moist](#)  
[throat, constriction](#)  
[tingling sensation](#)  
[vomiting](#)

**References:**

Fiddes, F. S. 1958. Poisoning by aconitine. Report of two cases. Br. Med. J., 2: 779-780.

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Date modified: 2009-09-01 [Important Notices](#)





| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: moonseed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Moonseed (*Menispermum canadense*) is a native vine found in south-central Canada. In Pennsylvania the fruits of this plant have apparently killed children (Gress 1935, Lampe and McCann 1985).

### References:

Gress, E. M. 1935. Poisonous plants of Pennsylvania. Penn. Dep. Agric. Gen. Bull., 531. 51 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Menispermum canadense* L.

Vernacular name(s): moonseed

Scientific family name: *Menispermaceae*

Vernacular family name: moonseed

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Menispermum canadense](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba  
Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

moonseed:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

mature fruit

### **References:**

Gress, E. M. 1935. Poisonous plants of Pennsylvania. Penn. Dep. Agric. Gen. Bull., 531. 51 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Notes on Toxic plant chemicals:**

Moonseed contains alkaloids that may be responsible for the toxicity of the fruit to humans (Lampe and McCann 1985). Acutumine, an alkaloid, has been found in the aboveground part of moonseed, but has not been proved to cause the toxicity. Other alkaloids have also been found in the rhizomes (Doskotch and Knapp 1971).

### **Toxic plant chemicals:**

acutumine  
unknown chemical

### **References:**

Doskotch, R. W., Knapp, J. E. 1971. Alkaloids from *Menispermum*

*canadense*. Lloydia (Cinci), 34: 292-300.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

#### **General symptoms of poisoning:**

[convulsions](#)

[death](#)

#### **Notes on poisoning:**

Gress (1935) describes a case where children ingested moonseed berries and later died. Lampe and McCann (1985) state that convulsions may result when the berries are ingested.

#### **References:**

Gress, E. M. 1935. Poisonous plants of Pennsylvania. Penn. Dep. Agric. Gen. Bull., 531. 51 pp.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: morning glory](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Hallucinations are the predominant effect after ingesting morning glory seeds. Ingesting 200-300 seeds produces an effect equivalent to 300 micro g of LSD. Vivid visual and tactile hallucinations, as well as increased awareness of colors have been described.

Symptoms include facial flushing, nausea, mydriasis, diarrhea, and hypotension (Spoerke and Smolinske 1990). *Ipomoea tricolor* has a long history of use as a human hallucinogen in southern Mexico, where the seeds were used in the preparation of a drink (Fuller and McClintock 1986). A single undocumented case of poisoning of a pet cat (after ingestion of seeds) has come to our attention. The cat showed erratic behavior and "looked like a lunatic". There was no apparent permanent damage afterwards. Several cultivars of *Ipomoea tricolor* are available in Canadian garden catalogs for home gardeners and, with few exceptions, no mention is made of any potential toxic affects from ingesting the seeds of these plants. Sample cultivars are "Heavenly Blue", "Pearly Gates", and "Scarlet O'Hara". The total alkaloid content is shown to vary, depending on the cultivar grown. It is advisable to remove and destroy the fruiting parts as they develop to avoid ingestion by children or pets.

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Vernacular name(s): morning glory

Scientific family name:

Vernacular family name: morning-glory

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Ipomoea tricolor](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que.,

Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

morning glory:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The embryo of the seeds, and not the shell, contains the toxic chemicals. Ingesting 200-300 seeds can cause problems in adult humans (Spoerke and Smolinske 1990).

### **Toxic parts:**

seeds

### **References:**

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Notes on Toxic plant chemicals:**

The seed embryos contain several indole alkaloids that have

hallucinogenic activity. These include d-lysergic acid amide (0.035%), d-isolysergic acid amide (0.005%), and elymoclavine (0.005%). The total alkaloid content varies with different plant cultivars. For instance, the cultivar "Pearly Gates" had 0.041%, whereas "Scarlet O'Hara" had 0.002% total alkaloids (Spoerke and Smolinske 1990).

**Toxic plant chemicals:**

d-isolysergic acid amide  
d-lysergic acid amide  
elymoclavine

**References:**

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cats**

**General symptoms of poisoning:**

[pupil dilation](#)

**Notes on poisoning:**

In an undocumented case, a pet cat was attracted to the fruiting capsule of a morning glory vine growing on an apartment balcony. The dry fruiting capsule contained seeds that rattled in the wind. The cat ate an unknown quantity of seeds and later was noted to run around chasing nothing. It meowed a lot and its eyes did not appear to focus on anything. The owner remarked that the cat "looked like a lunatic". There were no apparent lasting symptoms.

**References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

**Humans**

**General symptoms of poisoning:**

[blood pressure, low](#)

[diarrhea](#)

[hallucination](#)

[nausea](#)

[pupil dilation](#)

**Notes on poisoning:**

In one reported case of deliberate ingestion of 250 seeds of morning glory, a 20-year-old woman developed inappropriate responses and weeping. The pupils were dilated, the face flushed, and hyperactive reflexes were noted. After 5 h, anxiety, and increased awareness of colors was recorded, but without hallucinations. Diarrhea was noted after 9 h. Hypotension occurred intermittently. After 2 days most of the symptoms had disappeared, with the exception of dilated pupils and increased deep tendon reflexes (Spoerke and Smolinske 1990).

**References:**

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: mother-in-law plant](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Mother-in-law plant (*Dieffenbachia seguine*) is an ornamental. Chewing dumbcane (*Dieffenbachia* spp.) leaves or stems causes immediate pain and swelling in the mouth and throat. In severe cases, speech may become unintelligible, hence the name dumbcane. In the past these plants were used as a means of human torture. Family pets have also been poisoned after chewing on dumbcane plant material. The effects are almost instantaneous, before the plant material is actually ingested. The plant juices can also cause inflammation and contact dermatitis in some individuals (Arditti and Rodriguez 1982, Lampe and McCann 1985). Mrvos et al. (1990) determined that in many cases where people had contact with broken leaves of dumbcane plants, symptoms occurred within 5 min and were short and of minor consequence. The researchers concluded that concerns regarding oral complications may be exaggerated.

### References:

Arditti, J., Rodriguez, E. 1982. *Dieffenbachia*: uses, abuses and toxic constituents: a review. *J. Ethnopharmacol.*, 5: 293-302.

Drach, G., Maloney, W. H. 1963. Toxicity of the common houseplant *Dieffenbachia*. *J. Am. Med. Assoc.*, 184: 1047-1048.

Hanna, G. 1986. Plant poisoning in canines and felines. *Vet. Hum. Toxicol.*, 28: 38-40.

Lampe, K. F., McCann, M. A. 1985. *AMA Handbook of poisonous and injurious plants*. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Mrvos, R., Dean, B. S., Krenzelok, E. P. 1990. *Philodendron/Dieffenbachia* ingestions: are they a problem? *Vet. Hum. Toxicol.*, 32: 369.

### Nomenclature:

Scientific Name: *Dieffenbachia seguine* (Jacq.) Schott

Vernacular name(s): mother-in-law plant

Scientific family name: *Araceae*



Vernacular family name: arum

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Dieffenbachia seguine](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Plant or plant parts used in or around the home.

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

mother-in-law plant:

Images: [images.google.com](http://images.google.com)

### Toxic parts:

leaves  
stems

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and

poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Walter, W. G., Khanna, P. N. 1972. Chemistry of the aroids 1. *Dieffenbachia seguine*, *amoena* and *picta*. Econ. Bot., 26: 364-372.

### **Notes on Toxic plant chemicals:**

*Dieffenbachia* spp. contain calcium oxalate crystals, which are found in special cells called idioblasts; these cells have nozzle-like apertures at either end. The small needle-like crystals are small (0.2 mm long) and are forcibly extruded when the tissue is ruptured, as when chewed. This release of crystals from plant tissue can continue for several minutes. The initial sensation upon ingesting dumbcane tissue is one of pain (Dore 1963, Cheeke and Schull 1985). Proteolytic enzymes have also been found in dumbcanes and may account for some of the toxic effects (Walter and Khanna 1963, Arditti and Rodriguez 1982).

### **Toxic plant chemicals:**

oxalate  
proteolytic enzymes

### **References:**

Arditti, J., Rodriguez, E. 1982. *Dieffenbachia*: uses, abuses and toxic constituents: a review. J. Ethnopharmacol., 5: 293-302.

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Walter, W. G., Khanna, P. N. 1972. Chemistry of the aroids 1. *Dieffenbachia seguine*, *amoena* and *picta*. Econ. Bot., 26: 364-372.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### **Cats**

### **General symptoms of poisoning:**

[mouth, irritation of salivation](#)

### **References:**

Hanna, G. 1986. Plant poisoning in canines and felines. Vet. Hum. Toxicol., 28: 38-40.

#### **Dogs**

#### **Humans**

### **General symptoms of poisoning:**

[aphonia](#)  
[breathing, labored](#)  
[diarrhea](#)  
[mouth, irritation of](#)  
[salivation](#)  
[vomiting](#)

### **Notes on poisoning:**

Chewing dumbcane plants causes immediate intense pain and irritation of the lips, tongue, and mouth. There is edematous swelling of the oral mucosa. Bullae may form. Speech capability is often reduced or lost, a condition that can last for several days. The pain and irritation can also persist, and the edema can leave superficial necrosis. Excessive salivation is common. Treatment requires use of cool liquids; analgesics may be indicated (Arditti and Rodriguez 1982, Lampe and McCann 1985). Cut stem sections are particularly dangerous for nursery workers because of the possibility of getting plant juices into the eyes. Inflammation accompanied by intense pain, watering, and gross swelling can occur. Visual acuity may be reduced (Arditti and Rodriguez 1982).

### **References:**

Arditti, J., Rodriguez, E. 1982. *Dieffenbachia*: uses, abuses and toxic constituents: a review. *J. Ethnopharmacol.*, 5: 293-302.

Drach, G., Maloney, W. H. 1963. Toxicity of the common houseplant *Dieffenbachia*. *J. Am. Med. Assoc.*, 184: 1047-1048.

Lampe, K. F., McCann, M. A. 1985. *AMA Handbook of poisonous and injurious plants*. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: motherwort](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Motherwort (*Leonurus cardiaca*) is a naturalized herb that is weedy in flower and fruit gardens. This plant can cause dermatitis in sensitive individuals. A fragrant lemon-scented oil caused photosensitivity when ingested (Muenscher 1975, Mitchell and Rook 1979).

### References:

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

Muenscher, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

### Nomenclature:

Scientific Name: *Leonurus cardiaca* L.

Vernacular name(s): motherwort

Scientific family name: *Labiatae*

Vernacular family name: mint

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Leonurus cardiaca](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci.

(Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

motherwort:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### **Notes on Toxic plant chemicals:**

A fragrant lemon-scented oil from the plant can cause photosensitization (Mitchell and Rook 1979).

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: naked-flowered sneezeweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Naked-flowered sneezeweed (*Helenium flexuosum*) is a native herb found in Ontario and Quebec. This plant has caused poisoning in horses and sheep and, experimentally, in calves. It contains sesquiterpene lactones.

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Helenium flexuosum* Raf.

Vernacular name(s): naked-flowered sneezeweed

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Helenium flexuosum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

naked-flowered sneezeweed:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Herz, W. 1978. Sesquiterpene lactones from livestock poisons. Pages 487-497 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

### **Notes on Toxic plant chemicals:**

Flexuosin A and B are closely related to the chemical helenalin, which is found in sneezeweed (*Helenium autumnale*). These are all sesquiterpene lactones (Herz 1988).

### **Toxic plant chemicals:**

flexuosin A  
flexuosin B

### **References:**

Herz, W. 1978. Sesquiterpene lactones from livestock poisons. Pages 487-497 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the



literature (as of 1993) contained no detailed explanation.

## **Cattle**

## **Horses**

## **Sheep**

### **General symptoms of poisoning:**

[convulsions](#)

[dyspnea](#)

[weakness](#)

### **Notes on poisoning:**

Horses are more susceptible than sheep to poisoning by naked-flowered sneezeweed (Kingsbury 1964).

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: narcissus](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

*Narcissus* (*Narcissus poeticus*) is an ornamental bulb that is planted outdoors as a perennial and is occasionally used indoors as a winter forced flower. This plant contains allergens in the aboveground plant parts, which cause dermatitis in sensitive humans. Ingesting the bulbs can cause poisoning in humans and has also poisoned some cattle. Family pets could be at risk if they ingest quantities of this plant. Serious cases of poisoning are rare. Humans have been poisoned only when the bulbs were mistaken for onions (Mitchell and Rook 1979, Litovitz and Fahey 1982, Cooper and Johnson 1984). See notes under daffodil (*Narcissus pseudonarcissus*) for more information.

### References:

- Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.
- Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.
- Litovitz, T. L., Fahey, B. A. 1982. Please don't eat the daffodils. N. Eng. J. Med., 306: 547.
- Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### Nomenclature:

Scientific Name: *Narcissus poeticus* L.

Vernacular name(s): narcissus

Scientific family name: *Amaryllidaceae*

Vernacular family name: amaryllis

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Narcissus poeticus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

narcissus:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

See notes under daffodil ([Narcissus pseudonarcissus](#)) for more information.

### **Toxic parts:**

bulbs  
flowers  
leaves

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA.

432 pp.

**Notes on Toxic plant chemicals:**

The bulbs contain oxalate crystals as well as an alkaloid lycorine, which cause toxic problems. Unknown allergens in the leaves and flowers cause dermatitis in sensitive individuals (Mitchell and Rook 1979).

**Toxic plant chemicals:**

lycorine  
oxalate

**References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[convulsions](#)  
[gastroenteritis](#)

**Notes on poisoning:**

In World War II, cattle were fed bulbs of daffodils, with toxic results. Ingesting narcissus bulbs can have similar results. The animals were given these plants because of scarce food supplies (Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Humans**

**General symptoms of poisoning:**

[dizziness](#)  
[eczema](#)  
[erythema](#)  
[nausea](#)  
[skin, flushed](#)  
[vomiting](#)

### **Notes on poisoning:**

Symptoms of ingesting narcissus bulbs include lightheadedness, nausea, and vomiting. More severe symptoms are rare because of rapid emesis (Litovitz and Fahey 1982).

### **References:**

Litovitz, T. L., Fahey, B. A. 1982. Please don't eat the daffodils. N. Eng. J. Med., 306: 547.

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: northern water-hemlock](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Northern water-hemlock (*Cicuta virosa*) is a native perennial herb found in wet soils across northern Canada. It contains lower quantities of the toxic chemicals that cause poisoning in humans and livestock. However, Frohne and Pfander (1983) mention a case of human poisoning in Europe after ingestion of some rootstock of this plant. Livestock can also be poisoned if enough of the plants are ingested. Instances of poisoning in Canada should be fewer for northern water-hemlock because the concentration of chemicals is lower and the plant has essentially a boreal distribution outside of major livestock-growing areas. See additional information under [Cicuta maculata](#)

### References:

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### Nomenclature:

Scientific Name: *Cicuta virosa* L.

Vernacular name(s): northern water-hemlock

Scientific family name: *Umbelliferae*

Vernacular family name: parsley

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Cicuta virosa](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Alberta  
British Columbia  
Manitoba  
Northwest Territories  
Ontario  
Quebec  
Saskatchewan  
Yukon Territory

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

northern water-hemlock:

Images: [images.google.com](http://images.google.com)

### Toxic parts:

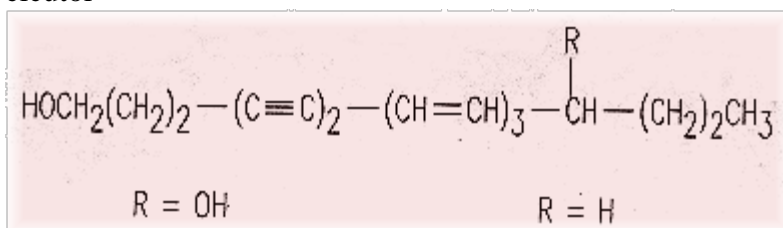
leaves  
roots

### References:

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### Toxic plant chemicals:

cicutol



cicutoxin

Chemical diagram(s) are courtesy of Ruth McDiarmid,  
Biochemistry Technician, Kamloops Range Station, Agriculture and  
Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants.  
Wolfe Publishing Ltd., London, England. 291 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the  
literature (as of 1993) contained no detailed explanation.

**Horses**

**Humans**

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Date modified: 2009-09-01

[Important Notices](#)





|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: oats](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Oats (*Avena sativa*) can cause nitrate toxicity in livestock. Cattle are more prone to toxicity, but swine and turkeys have been poisoned on oat stubble. Grass tetany also occurs during periods of lush growth when ruminants suffer from a mineral imbalance.

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Newsom, I. E., Stout, E. N., Thorp, F., Barber, C. W., Groth, A. H. 1937. Oat hay poisoning. J. Am. Vet. Med. Assoc., 90: 66-75.

### Nomenclature:

Scientific Name: *Avena sativa* L.

Vernacular name(s): oats

Scientific family name: *Gramineae*

Vernacular family name: grass

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Avena sativa](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

oats:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Notes on Toxic plant chemicals:**

Oat hay is a common source of plant poisoning by nitrates. Evidence suggests that moisture on outdoor hay may promote bacterial reduction of nitrate to the more toxic nitrite (Kingsbury 1964).

### **Toxic plant chemicals:**

nitrate

## References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Cattle

### General symptoms of poisoning:

[cyanosis](#)

[death](#)

[gait, staggering](#)

[trembling](#)

[weakness](#)

## References:

Newsom, I. E., Stout, E. N., Thorp, F., Barber, C. W., Groth, A. H. 1937. Oat hay poisoning. J. Am. Vet. Med. Assoc., 90: 66-75.

## Swine

## Turkeys

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Ohio buckeye](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Ohio buckeye (*Aesculus glabra*) is not native to Canada but is occasionally planted as an ornamental tree in southern Ontario. It is winter-hardy in Ottawa. Cattle have been poisoned in the eastern United States, where this tree is a native species. Symptoms are mostly gastrointestinal and neuromuscular (Kornheiser 1983). This plant is unlikely to cause livestock poisoning because it is rare in Canada. The fruits of this plant may be attractive to children and could cause poisoning if ingested.

### References:

Kornheiser, K. M. 1983. Buckeye poisoning in cattle. *Vet. Med. Small Anim. Clin.*, 78: 769-770.

Lampe, K. F., McCann, M. A. 1985. *AMA Handbook of poisonous and injurious plants*. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Aesculus glabra* Willd.

Vernacular name(s): Ohio buckeye

Scientific family name: *Hippocastanaceae*

Vernacular family name: horse-chestnut

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Aesculus glabra](#)

### References:

Agriculture Quebec. 1975. *Noms des maladies des plantes du Canada/ Names of plant diseases in Canada*. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. *Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada*. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. *Hortus third*. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Ohio buckeye:

Images: [images.google.com](http://images.google.com)

### **Toxic parts:**

mature fruit

### **References:**

Kornheiser, K. M. 1983. Buckeye poisoning in cattle. Vet. Med. Small Anim. Clin., 78: 769-770.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[ataxia](#)

[gait, unsteady](#)

[opisthotonos](#)

[torticollis](#)

### **References:**

Kornheiser, K. M. 1983. Buckeye poisoning in cattle. Vet. Med.

Small Anim. Clin., 78: 769-770.

## **Humans**

### **General symptoms of poisoning:**

[death](#)

[gastroenteritis](#)

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: oleander](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Oleander (*Nerium oleander*) is an ornamental indoor shrub found in Canadian homes and offices. This plant is quite toxic if the leaves or stems are ingested. Humans have died after eating meat that was skewered with oleander stems. Ingesting a single leaf may be toxic to a person. The dry leaves remain toxic. Cattle, horses, and sheep have been poisoned experimentally (Wilson 1909, Kingsbury 1964). Livestock are not likely to have access to oleander in Canada. Children and family pets should be prevented from ingesting green or dry leaves, chewing stems, or sucking the nectar from flowers.

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Wilson, F. W. 1909. Oleander poisoning of livestock. Univ. Ariz. Agric. Exp. Stn. Bull., 59. 383-397 pp.

### Nomenclature:

Scientific Name: *Nerium oleander* L.

Vernacular name(s): oleander

Scientific family name: *Apocynaceae*

Vernacular family name: dogbane

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Nerium oleander](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

oleander:

Images: [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
flowers  
leaves  
stems  
young shoots

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Notes on Toxic plant chemicals:**

Oleandrin, a cardiac glycoside, is found throughout the plant, including the nectar of the flowers. Smoke from burning twigs is said to be toxic (Fuller and McClintock 1986).

### **Toxic plant chemicals:**

oleandrin

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California.



Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[breathing, rapid](#)  
[death](#)  
[heart rate, elevated](#)  
[mouth, irritation of](#)  
[pupil dilation](#)

#### **Notes on poisoning:**

Experimental poisoning of cattle has shown symptoms that include elevated breathing and heart rate. If a large dose is given, the heart action becomes so low that a pulse is almost undetectable. Green leaves at a rate of as little as 0.005% of a cow's body weight can cause death (Wilson 1909, Kingsbury 1964).

#### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Wilson, F. W. 1909. Oleander poisoning of livestock. Univ. Ariz. Agric. Exp. Stn. Bull., 59. 383-397 pp.

### **Horses**

#### **General symptoms of poisoning:**

[breathing, rapid](#)  
[death](#)  
[mouth, irritation of](#)  
[pupil dilation](#)

#### **Notes on poisoning:**

Experimental poisoning of horses with fresh oleander leaves resulted in toxic symptoms, including elevated breathing and pulse, greenish feces, some abdominal pain, cold extremities, and a swollen and irritated mouth and tongue. A dose of green leaves equal to 0.005% of a horse's body weight is sufficient to kill a horse (Wilson 1909, Kingsbury 1964).

#### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Wilson, F. W. 1909. Oleander poisoning of livestock. Univ. Ariz. Agric. Exp. Stn. Bull., 59. 383-397 pp.

## **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[coma](#)

[death](#)

[diarrhea](#)

[dizziness](#)

[drowsiness](#)

[dyspnea](#)

[mouth, irritation of](#)

[nausea](#)

### **Notes on poisoning:**

Humans have been poisoned from using the twigs of oleander to skewer meat or roast frankfurters. Ingesting a single green or dry leaf may cause poisoning. Symptoms include dizziness, abdominal pain, vomiting, unconsciousness, bloody stools, and light and rapid pulse. Death has occurred in some cases. Symptoms occur several hours after ingesting a toxic dose (Wilson 1909, Kingsbury 1964).

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Wilson, F. W. 1909. Oleander poisoning of livestock. Univ. Ariz. Agric. Exp. Stn. Bull., 59. 383-397 pp.

## **Sheep**

### **General symptoms of poisoning:**

[breathing, rapid](#)

[death](#)

[mouth, irritation of](#)

### **Notes on poisoning:**

Experimental feeding of green oleander leaves has caused elevated breathing, partial unconsciousness, sore mouth and nostrils, discolored mucous membranes, and death (dose: 0.015% body weight of green leaves). Cold extremities and gastroenteritis also occur (Wilson 1909, Kingsbury 1964).

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Wilson, F. W. 1909. Oleander poisoning of livestock. Univ. Ariz. Agric. Exp. Stn. Bull., 59. 383-397 pp.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: onion](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Cultivated onion (*Allium cepa*) has caused hemolytic anemia in livestock including cattle, horses, and experimentally in sheep. Death can occur in severe cases. The formation of Heinz bodies in the red blood cells is a common occurrence. Heinz bodies consist of a precipitate, denatured hemoglobin caused by oxidant attack (Hutchinson 1977).

### References:

- Hutchinson, T. W. 1977. Onions as a cause of Heinz body anaemia and death in cattle. *Can. Vet. J.*, 18: 358-360.
- Kirk, J. H., Bulgin, M. S. 1979. Effects of feeding cull domestic onions (*Allium cepa*) to sheep. *Am. J. Vet. Res.*, 40: 397-399.
- Thorp, F., Harshfield, G. S. 1939. Onion poisoning in horses. *J. Am. Vet. Med. Assoc.*, 94: 52-53.

### Nomenclature:

Scientific Name: *Allium cepa* L.

Vernacular name(s): onion

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Allium cepa](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.
- Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.
- Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

onion:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bulbs  
leaves

### **References:**

Hutchinson, T. W. 1977. Onions as a cause of Heinz body anaemia and death in cattle. Can. Vet. J., 18: 358-360.

Kirk, J. H., Bulgin, M. S. 1979. Effects of feeding cull domestic onions (*Allium cepa*) to sheep. Am. J. Vet. Res., 40: 397-399.

Thorp, F., Harshfield, G. S. 1939. Onion poisoning in horses. J. Am. Vet. Med. Assoc., 94: 52-53.

### **Notes on Toxic plant chemicals:**

Onions (*Allium* spp.) contain various toxins that can cause problems. N-propyl disulphide, an alkaloid, has been implicated as the toxic chemical (Hutchinson 1977). More recent studies have shown that S-methyl-L-cysteine sulfoxide (SMCO) is involved in forming Heinz bodies and hemolytic anemia. This chemical is less toxic in nonruminant animals (Benevenga et al. 1989).

(Note: calcium oxalate crystals have been found in the dry outer skin or scale leaves of this plant (Sarma and Terpó 1980)). Garlic

(*Allium sativum*) is a cultivated plant grown for its bulbs.

**Toxic plant chemicals:**

N-propyl disulphide  
oxalate  
S-methyl-L-cysteine sulfoxide (SMCO)

**References:**

Benevenga, N. J., Case, G. L., Steele, R. D. 1989. Occurrence and metabolism of s-methyl-l-cysteine and s-methyl-l-cysteine sulfoxide in plants and their toxicity and metabolism in animals. Pages 203-228 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

Hutchinson, T. W. 1977. Onions as a cause of Heinz body anaemia and death in cattle. Can. Vet. J., 18: 358-360.

Kirk, J. H., Bulgin, M. S. 1979. Effects of feeding cull domestic onions (*Allium cepa*) to sheep. Am. J. Vet. Res., 40: 397-399.

Sarma, S. K., Terpó, A. 1980. The occurrence of different types of calcium oxalate crystals in *Allium cepa* L. and *Allium fistulosum* L. and their importance in taxonomy. Acta Agron. Acad. Sci. Hung., 29: 25-37.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[death](#)  
[Heinz bodies](#)

**References:**

Hutchinson, T. W. 1977. Onions as a cause of Heinz body anaemia and death in cattle. Can. Vet. J., 18: 358-360.

**Horses**

**General symptoms of poisoning:**

[anemia](#)  
[breath, onion odor of](#)  
[breathing, rapid](#)  
[death](#)  
[icterus](#)  
[weight loss](#)

## References:

Thorp, F., Harshfield, G. S. 1939. Onion poisoning in horses. J. Am. Vet. Med. Assoc., 94: 52-53.

## Sheep

### General symptoms of poisoning:

[anemia](#)

## References:

Kirk, J. H., Bulgin, M. S. 1979. Effects of feeding cull domestic onions (*Allium cepa*) to sheep. Am. J. Vet. Res., 40: 397-399.

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[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: opium poppy](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Opium poppy (*Papaver somniferum*) is an ornamental flower that can still be found around some older homes. The plant persists by setting seed each year. This plant is the source of pharmacological and recreational drugs, as well as the poppy seeds that are used for oil and as a condiment on bagels, cakes, and other foods. Cattle have been poisoned in Europe after ingesting either stalks with pods that were being discarded or seed residue left over from oil extraction. Humans are either poisoned or addicted by various contained and derived chemicals found in the opium poppy (Frohne and Pfander 1983, Cooper and Johnson 1984). It is important to note that poppy seeds sold in stores are harmless, as the toxins have been destroyed by heat (Fuller and McClintock 1986).

### References:

- Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.
- Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.
- Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### Nomenclature:

Scientific Name: *Papaver somniferum* L.

Vernacular name(s): opium poppy

Scientific family name: *Papaveraceae*

Vernacular family name: poppy

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Papaver somniferum](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que.,



Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

opium poppy:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
immature fruit  
plant juices

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Notes on Toxic plant chemicals:**

Opium poppy contains a crude resin, opium, that is found throughout the plant but is concentrated in the unripe seed pod in the milky sap. Medicinal drugs, such as morphine and codeine, as well as other alkaloids, such as papaverine and protopine, are found

in opium poppy (Cooper and Johnson 1984).

**Toxic plant chemicals:**

codine  
morphine  
protopine

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[ataxia](#)  
[breathing, rapid](#)  
[gastroenteritis](#)  
[nervousness](#)

**Notes on poisoning:**

Cattle that ingested plant material of opium poppy exhibited symptoms of restlessness and constant motion. Continuous lowing occurred. Feeding, rumination, and lactation ceased. Animals went into a deep sleep. Affected animals are an economic loss because of the slow recovery and reduced milk yield. Postmortem examination showed inflammation of the kidneys and intestines, with yellowing of the liver (Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Humans**

**General symptoms of poisoning:**

[cyanosis](#)  
[death by asphyxiation](#)  
[eczema](#)  
[headache](#)  
[pupils, pinpoint](#)  
[sweating](#)

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

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[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Oriental poppy](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Oriental poppy (*Papaver orientale*) is a perennial ornamental herb that is commonly planted in flower beds. This plant contains some alkaloidal chemicals that may be physiologically active in animals, but no cases of poisoning have occurred under natural conditions. During fall and spring clean-up, all old flower heads and pods should be picked up so that they are not left for animals to eat (Kingsbury 1964).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Papaver orientale* L.

Vernacular name(s): Oriental poppy

Scientific family name: *Papaveraceae*

Vernacular family name: poppy

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Papaver orientale](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Oriental poppy:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
plant juices

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Notes on Toxic plant chemicals:**

Some alkaloidal chemicals that may be physiologically active have been found in Oriental poppy (Kingsbury 1964).

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the

literature (as of 1993) contained no detailed explanation.

## **Cattle**

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Date modified: 2009-09-01

[Important Notices](#)



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|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: Osage-orange](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Osage-orange (*Maclura pomifera*) is occasionally planted as an ornamental shrub in the warmest parts of Canada. The milky sap causes dermatitis in sensitive individuals. It is unclear whether the sap is an irritant, is sensitizing, or both (Muenscher 1975, Mitchell and Rook 1979).

### References:

Muenscher, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

### Nomenclature:

Scientific Name: *Maclura pomifera* (Raf.) C. K. Schneid.

Vernacular name(s): Osage-orange

Scientific family name: *Moraceae*

Vernacular family name: mulberry

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Maclura pomifera](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Osage-orange:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

A milky juice is contained in the leaves, stems, and large fruit of this plant. Some humans are sensitive to the plant juice (Muenscher 1975).

### **Toxic parts:**

plant juices

### **References:**

Muenscher, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Muenscher, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**



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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: pawpaw](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Pawpaw (*Asimina triloba*) is a native tree found in southwestern Ontario. The tree has edible fruit that has caused dermatitis in some individuals and can also cause severe gastroenteritis when it is ingested. This tree has limited distribution in southwestern Ontario (Kingsbury 1964).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Asimina triloba* (L.) Dunal

Vernacular name(s): pawpaw

Scientific family name: *Annonaceae*

Vernacular family name: custard-apple

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Asimina triloba](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

pawpaw:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

mature fruit

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

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[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
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| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: penciltree](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Penciltree (*Euphorbia tirucalli*) is an attractive indoor ornamental tree. The plant contains caustic and irritant chemicals in the latex which cause reactions with the skin, mucous membranes, and the eyes. Severe burning and inflammation result after the latex comes into contact with the skin. Ingestion causes burning and irritation of the mouth and stomach, accompanied by pain and perhaps diarrhea. Apparently, injudicious medicinal use of the latex of this plant has caused fatalities in East Africa (Fuller and McClintock 1986). Family pets should not be allowed to ingest the plant.

### References:

Crowder, J. I., Sexton, R. R. 1964. Keratoconjunctivitis resulting from the sap of candelabra cactus and the pencil tree. Arch. Ophthalmol., 72: 476-484.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### Nomenclature:

Scientific Name: *Euphorbia tirucalli* L.

Vernacular name(s): penciltree

Scientific family name: *Euphorbiaceae*

Vernacular family name: spurge

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Euphorbia tirucalli](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

penciltree:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

latex

### **References:**

Fürstenberger, G., Hecker, E. 1986. On the active principles of the Euphorbiaceae, XII. Highly unsaturated irritant diterpene esters from *Euphorbia tirucalli* originating from Madagascar. J. Nat. Prod. (Lloydia), 49: 386-397.

### **Notes on Toxic plant chemicals:**

Toxic ingenol and 4-deoxyingenol are diterpenes that have been isolated from the latex of penciltree (Frohne and Pfander 1983; Frstenberger and Hecker 1986).

### **Toxic plant chemicals:**

4-deoxyingenol

### **References:**

Fürstenberger, G., Hecker, E. 1986. On the active principles of the Euphorbiaceae, XII. Highly unsaturated irritant diterpene esters

from *Euphorbia tirucalli* originating from Madagascar. J. Nat. Prod. (Lloydia), 49: 386-397.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

#### **General symptoms of poisoning:**

[blindness, temporary](#)  
[keratoconjunctivitis](#)

#### **Notes on poisoning:**

Penciltree latex causes keratoconjunctivitis if it gets into the eyes. The symptoms include immediate burning pain of the eyeball and eyelids, tearing, and photophobia. These symptoms are followed by 8-12 h of chemosis of the lids and conjunctiva, with blurred vision and increased pain. Erosion of the corneal epithelium, decreased visual acuity, and corneal edema occur (Crowder and Sexton 1964).

#### **References:**

Crowder, J. I., Sexton, R. R. 1964. Keratoconjunctivitis resulting from the sap of candelabra cactus and the pencil tree. Arch. Ophthalmol., 72: 476-484.

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[Coming Events](#) | [About CBIF](#) | [Links](#) | [Reports And Publications](#) | [Home](#)

Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Peruvian lily](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Peruvian lily (*Alstroemeria ligtu*) is grown as a cut flower by the florist industry. Cut flowers are also flown into North America from Holland. This plant causes contact dermatitis to workers who may be sensitized to the chemical tuliposide A, which is also found in tulip plants. This chemical readily penetrates vinyl gloves. Nitrile gloves may prevent the allergic reaction of workers sensitive to this chemical (Marks 1988).

### References:

Marks, J. G. 1988. Allergic contact dermatitis to *Alstroemeria*. Arch. Dermatol., 124: 914-916.

Santucci, B., Picardo, M., Iavaroni, C., Trogolo, C. 1985. Contact dermatitis to *Alstroemeria*. Contact Dermatitis, 12: 215-219.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Alstroemeria ligtu* L.

Vernacular name(s): Peruvian lily

Scientific family name: *Amaryllidaceae*

Vernacular family name: amaryllis

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Peruvian lily:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

plant juices

### **References:**

Marks, J. G. 1988. Allergic contact dermatitis to *Alstroemeria*. Arch. Dermatol., 124: 914-916.

Santucci, B., Picardo, M., Iavaroni, C., Trogolo, C. 1985. Contact dermatitis to *Alstroemeria*. Contact Dermatitis, 12: 215-219.

### **Notes on Toxic plant chemicals:**

The lactone 6-tuliposide A occurs in both the Peruvian lily and in tulip plants. A human who becomes sensitized to one of the plants generally becomes cross-reactive to the other plant. In a series of tests, it took about 3 years for workers to become sensitive to Peruvian lily (Santucci et al. 1985).

### **Toxic plant chemicals:**

tuliposide A  
6-tuliposide A

### **References:**

Marks, J. G. 1988. Allergic contact dermatitis to *Alstroemeria*.



Arch. Dermatol., 124: 914-916.

Santucci, B., Picardo, M., Iavaroni, C., Trogolo, C. 1985. Contact dermatitis to *Alstroemeria*. Contact Dermatitis, 12: 215-219.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

#### **General symptoms of poisoning:**

[blistering](#)  
[erythema](#)

#### **References:**

Marks, J. G. 1988. Allergic contact dermatitis to *Alstroemeria*. Arch. Dermatol., 124: 914-916.

Santucci, B., Picardo, M., Iavaroni, C., Trogolo, C. 1985. Contact dermatitis to *Alstroemeria*. Contact Dermatitis, 12: 215-219.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: petty spurge](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Petty spurge (*Euphorbia peplus*) is a naturalized herb found across Canada. This plant contains a caustic and irritant chemical in the latex, which causes burning and inflammation of skin and eyes. Ingestion results in complications. Family pets should not be allowed to ingest this plant. Experimental poisoning occurred in a calf that was fed petty spurge (Kingsbury 1964).

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Euphorbia peplus* L.

Vernacular name(s): petty spurge

Scientific family name: *Euphorbiaceae*

Vernacular family name: spurge

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Euphorbia peplus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

petty spurge:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

latex

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Notes on Toxic plant chemicals:**

Petty spurge contains a toxic diterpene, 5-deoxyingenol, as well as ingenol (Frohne and Pfander 1983).

### **Toxic plant chemicals:**

5-deoxyingenol

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[salivation](#)

#### **Notes on poisoning:**

Experimental feeding of petty spurge caused blood-stained feces and excessive salivation in a calf (Kingsbury 1964).

#### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Humans**

#### **General symptoms of poisoning:**

[eye, discharge of](#)  
[mouth, irritation of](#)

#### **Notes on poisoning:**

Skin and mucous membrane irritation result from contact with the latex. Severe eye irritation also occurs (Fuller and McClintock 1986).

#### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

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Date modified: 2009-09-01 [Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: philodendron](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Philodendron (*Philodendron cordatum*) is an indoor ornamental. Philodendrons can cause poisoning in humans and pets because of the oxalates. See additional general notes under [Philodendron scandens](#).

### References:

- Ayres, S. Jr, Ayres, S. 1958. Philodendron as a cause of contact dermatitis. Arch. Dermatol., 78: 330-333.
- Dorsey, C. 1958. *Philodendron* dermatitis. Calif. Med., 88: 329-330.
- Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.
- McIntire, M. S., Guest, J. R., Porterfield, J. F. 1990. Philodendron - an infant death. Clin. Toxicol., 28: 177-183.

### Nomenclature:

Scientific Name: *Philodendron cordatum* (Vell.) Kunth.

Vernacular name(s): philodendron

Scientific family name: *Araceae*

Vernacular family name: arum

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Philodendron cordatum](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.
- Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

philodendron:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
plant juices

### **References:**

Ayres, S. Jr, Ayres, S. 1958. Philodendron as a cause of contact dermatitis. Arch. Dermatol., 78: 330-333.

Dorsey, C. 1958. *Philodendron* dermatitis. Calif. Med., 88: 329-330.

### **Toxic plant chemicals:**

oxalate

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the

literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[erythema](#)

[itchiness](#)

### **References:**

Ayres, S. Jr, Ayres, S. 1958. Philodendron as a cause of contact dermatitis. Arch. Dermatol., 78: 330-333.

Dorsey, C. 1958. *Philodendron* dermatitis. Calif. Med., 88: 329-330.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: pin cherry](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Pin cherry (*Prunus pensylvanica*) is a native tree found throughout most of Canada. The leaves have an average N rate of 91 mg/100 g, with as much as 143 mg/100 g recorded. These levels are potentially lethal to livestock if ingested. M. Pitcher (personal communication) notes that captive moose in Newfoundland and Alberta nature parks and zoos regurgitate a gray, chalky, paste-like substance when fed pin cherry browse mixed with their normal browse, white birch (*Betula papyrifera*). Livestock that ingest pin cherry plant material can be poisoned (Kingsbury 1964).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Prunus pensylvanica* L. f.

Vernacular name(s): pin cherry

Scientific family name: *Rosaceae*

Vernacular family name: rose

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Prunus pensylvanica](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.



Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

pin cherry:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

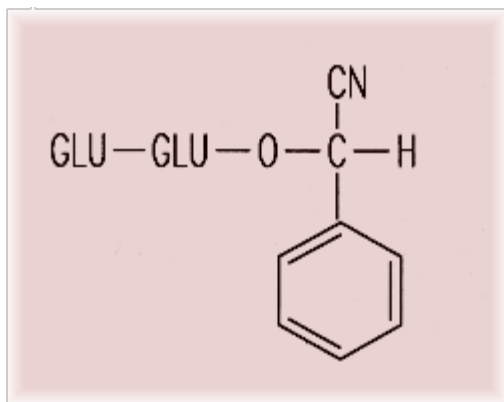
leaves

### **References:**

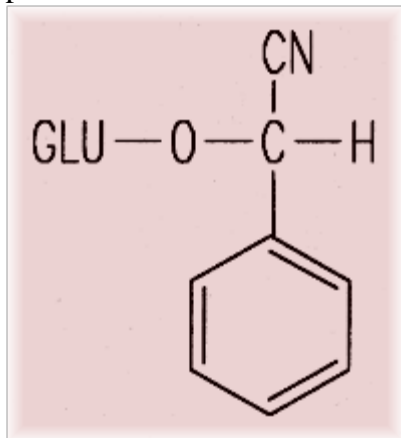
Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Toxic plant chemicals:**

amygdalin



prunasin



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

#### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

#### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Moose

#### General symptoms of poisoning:

[vomiting](#)

#### Notes on poisoning:

M. Pitcher (personal communication) states that captive moose develop an adverse reaction to pin cherry when the plant is inadvertently mixed with their usual browse, white birch (*Betula papyrifera*). The moose regurgitate a gray, chalky paste-like substance. This has been noted both in Newfoundland and Alberta.

## References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: pink lady's-slipper](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Pink lady's-slipper (*Cypripedium acaule*) is a native perennial orchid that grows across most of Canada. The plant can cause severe dermatitis in some individuals, as do the other *Cypripedium* spp., upon contact with the glandular hairs on the leaves and stem (Reddoch and Reddoch 1984).

### References:

MaCaulay, J. C. 1987. Orchid allergy. Contact Dermatitis, 17: 112-113.

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

Reddoch, A. H., Reddoch, J. M. 1984. Warning: Lady's-slippers can be hazardous to your health. Plant Press, 2(1): 10.

### Nomenclature:

Scientific Name: *Cypripedium acaule* Ait.

Vernacular name(s): pink lady's-slipper

Scientific family name: *Orchidaceae*

Vernacular family name: orchid

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Cypripedium acaule](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

pink lady's-slipper:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The glandular hairs on the leaves and stems of the lady"s-slippers contain the dermatogenic chemical that causes dermatitis in some individuals (Mitchell and Rook 1979).

### **Toxic parts:**

leaves  
stems

### **References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

Reddoch, A. H., Reddoch, J. M. 1984. Warning: Lady's-slippers can be hazardous to your health. Plant Press, 2(1): 10.

### **Notes on Toxic plant chemicals:**

The dermatogenic quinone, cypripedin, has been identified in lady's-slippers (Reddoch and Reddoch 1984).

### **Toxic plant chemicals:**

cypripedin

### **References:**

Reddoch, A. H., Reddoch, J. M. 1984. Warning: Lady's-slippers can be hazardous to your health. Plant Press, 2(1): 10.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[blisters, weeping](#)

### **References:**

Reddoch, A. H., Reddoch, J. M. 1984. Warning: Lady's-slippers can be hazardous to your health. Plant Press, 2(1): 10.

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Date modified: 2009-09-01

[Important Notices](#)



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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: poinsettia](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Poinsettia (*Euphorbia pulcherrima*) is a popular Christmas plant grown for its red leafy bracts. It has been listed as a known toxic plant that has caused a loss of human life. The case cited in all literature is based on the death of a child in Hawaii who ingested a leaf of poinsettia. The author of that report said that the incident was based on hearsay (Stone and Collins 1971). Various studies have not found any of the toxic diterpenes that occur in the latex of other spurge (*Euphorbia* spp.). Extensive studies on rats that were fed "extraordinarily" high doses of poinsettia showed no mortality, no symptoms of toxicity, and no changes in normal behaviour (Stone and Collins 1971). Klug et al. (1990) reviewed 353 calls to poison control centres and found that nausea and vomiting were cited in 0.02% of the cases with rash and sneezing cited in 0.0028%. An older dog that ingested poinsettia reportedly experienced protracted vomiting, followed by renal failure, coma, and death. This is the only case in the literature of death to an animal. Case histories show that some humans develop a sensitivity to the latex, resulting in dermatitis. Short exposures to poinsettia in a few cases have led to bouts of vomiting, but no substantiated cases of death can be found in the literature. Poinsettia should no longer be regarded as a severely toxic plant.

### References:

- Klug, S., Saleem, G., Hocharuk, L., Marcus, S. 1990. Toxicity potential of poinsettia, is the plant really toxic? *Vet. Hum. Toxicol.*, 32: 368.
- Santucci, B., Picardo, M., Cristaudo, A. 1985. Contact dermatitis from *Euphorbia pulcherrima*. *Contact Dermatitis*, 12: 285-286.
- Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.
- Stone, R. P., Collins, W. J. 1971. *Euphorbia pulcherrima*: toxicity to rats. *Toxicon*, 9: 301-302.

### Nomenclature:

Scientific Name: *Euphorbia pulcherrima* Willd. ex Klotzsch

Vernacular name(s): poinsettia

Scientific family name: *Euphorbiaceae*

Vernacular family name: spurge

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Euphorbia pulcherrima](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Plant or plant parts used in or around the home.

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

poinsettia:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

A few people have a positive reaction to the latex and to aqueous extracts of plant material (Santucci et al. 1985).

### Toxic parts:



latex  
leaves  
stems

**References:**

Santucci, B., Picardo, M., Cristaudo, A. 1985. Contact dermatitis from *Euphorbia pulcherrima*. Contact Dermatitis, 12: 285-286.

**Notes on Toxic plant chemicals:**

The latex does not contain any diterpenes. The plant contains an unidentified chemical, which causes dermatitis in a few sensitive individuals (Santucci et al. 1985).

**Toxic plant chemicals:**

unknown chemical

**References:**

Santucci, B., Picardo, M., Cristaudo, A. 1985. Contact dermatitis from *Euphorbia pulcherrima*. Contact Dermatitis, 12: 285-286.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Dogs**

**General symptoms of poisoning:**

[coma](#)  
[death](#)  
[kidney failure](#)  
[vomiting](#)

**References:**

Klug, S., Saleem, G., Hocharuk, L., Marcus, S. 1990. Toxicity potential of poinsettia, is the plant really toxic? Vet. Hum. Toxicol., 32: 368.

**Humans**

**General symptoms of poisoning:**

[eczema](#)  
[nausea](#)  
[vomiting](#)

**Notes on poisoning:**

The most severe symptoms of poinsettia ingestion substantiated in

the literature are a few cases of nausea and vomiting, with an occasional rash (Klug et al. 1990).

### **References:**

Klug, S., Saleem, G., Hocharuk, L., Marcus, S. 1990. Toxicity potential of poinsettia, is the plant really toxic? *Vet. Hum. Toxicol.*, 32: 368.

Santucci, B., Picardo, M., Cristaudo, A. 1985. Contact dermatitis from *Euphorbia pulcherrima*. *Contact Dermatitis*, 12: 285-286.

### **Rodents**

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[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: poison ivy](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Poison ivy (*Rhus radicans*; synonym *Toxicodendron radicans*) is a native shrub or vine found throughout southern Canada. Three recognized varieties are found in various parts of the country (Mulligan and Junkins 1977). Urushiol is the allergenic agent found in most parts of the plant. Damage to plant tissues causes the nonvolatile chemicals to be exposed. Humans are often sensitized, with symptoms ranging from mild itchiness and redness to severe oozing lesions with fever. Poison ivy is probably responsible for more cases of plant dermatitis in Canada than any other plant. Urushiol can contaminate clothes, tools, and the fur of domestic animals. Humans can subsequently develop dermatitis from contact. Humans do not contract the dermatitis on first contact, but most people are sensitized the first time (Mulligan 1990, Schwartz and Downham 1981, Gayer and Burnett 1988).

### References:

- Downham, T. F. 1986. Science has got its hands on poison-ivy, poison-oak, and poison-sumac. U.S. Dep. Agric. For. Serv. Man. N., 47: 23-28.
- Epstein, W. L., Byers, V. S. 1981. Poison oak and poison ivy dermatitis. Prevention and treatment in forest service work. U.S. Dep. Agric. For. Serv. Rep., 14 pp.
- Gaillard, G. E. 1956. The modern treatment of poison ivy. N. Y. State J. Med., 56:2255-2259.
- Gayer, K. D., Burnett, J. W. 1988. *Toxicodendron* dermatitis. *Cutis*, 42: 99-100.
- Goldsmith, M. F. 1984. Sensitivity test may aid in avoiding 'poison' plant-induced dermatitis. *J. Am. Med. Assoc.*, 251: 1389-1390.
- Guin, J. D. 1980. Reaction time in experimental poison ivy dermatitis. *Contact Dermatitis*, 6:289-290.
- Mulligan, G. A., Junkins, B. E. 1977. The biology of Canadian weeds 23. *Rhus radicans* L. *Can. J. Plant Sci.*, 57: 515-523.
- Mulligan, G. A. 1990. Poison ivy. Western poison oak. Poison sumac. *Agric. Can. Publ.*, 1699. 13 pp.

Schwartz, R. S. 1981. Erythema multiforme associated with *Rhus* contact dermatitis. *Cutis*, 27: 85-86.

**Nomenclature:**

Scientific Name: *Rhus radicans* L.

Vernacular name(s): poison ivy

Scientific family name: *Anacardiaceae*

Vernacular family name: cashew

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rhus radicans](#)

**References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

**Geographic Information**

Alberta

British Columbia

Manitoba

New Brunswick

Nova Scotia

Ontario

Prince Edward Island

Quebec

Saskatchewan

**References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

poison ivy:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
leaves  
plant juices

### **References:**

Gayer, K. D., Burnett, J. W. 1988. *Toxicodendron dermatitis*. Cutis, 42: 99-100.

Goldsmith, M. F. 1984. Sensitivity test may aid in avoiding 'poison' plant-induced dermatitis. J. Am. Med. Assoc., 251: 1389-1390.

Mulligan, G. A., Junkins, B. E. 1977. The biology of Canadian weeds 23. *Rhus radicans* L. Can. J. Plant Sci., 57: 515-523.

Mulligan, G. A. 1990. Poison ivy. Western poison oak. Poison sumac. Agric. Can. Publ., 1699. 13 pp.

Schwartz, R. S. 1981. Erythema multiforme associated with *Rhus* contact dermatitis. Cutis, 27: 85-86.

### **Notes on Toxic plant chemicals:**

Urushiol, a group of alkylcatechols, is found in the sap of poison-ivy plants. The allergic reaction has been traditionally thought to involve initial oxidation by which a protein-reactive quinone is formed. Recent work indicates that redox cycling in the skin, following penetration of the allergenic alkybenzenes, initially depletes local levels of endogenous-reducing equivalents such as NADH and glutathione. Further cycling results in the uncontrolled generation of radical species that exhibit protein reactivity. The urushiol is not volatile and can contaminate clothing, tools, and domestic animals. Under dry conditions, the chemical can remain harmful for long periods (Mulligan 1990, Schmidt et al. 1990).

### **Toxic plant chemicals:**

urushiol oil  
3-pentadecyl catechol

### **References:**

Downham, T. F. 1986. Science has got its hands on poison-ivy, poison-oak, and poison-sumac. U.S. Dep. Agric. For. Serv. Man.

N., 47: 23-28.

Gaillard, G. E. 1956. The modern treatment of poison ivy. N. Y. State J. Med., 56:2255-2259.

Gayer, K. D., Burnett, J. W. 1988. *Toxicodendron* dermatitis. Cutis, 42: 99-100.

Goldsmith, M. F. 1984. Sensitivity test may aid in avoiding 'poison' plant-induced dermatitis. J. Am. Med. Assoc., 251: 1389-1390.

Mulligan, G. A., Junkins, B. E. 1977. The biology of Canadian weeds 23. *Rhus radicans* L. Can. J. Plant Sci., 57: 515-523.

Mulligan, G. A. 1990. Poison ivy. Western poison oak. Poison sumac. Agric. Can. Publ., 1699. 13 pp.

Schmidt, R. J., Khan, L., Chung, L. Y. 1990. Are free radicals and not quinones the haptenic species derived from urushiols and other contact allergenic mono- and dihydride alkylbenzenes? Dermatol. Res., 282: 56-64.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

#### **General symptoms of poisoning:**

[blistering](#)

[blisters, weeping](#)

[erythema](#)

[face, edema of](#)

[itchiness](#)

[pneumonitis](#)

[temperature, elevated](#)

[tracheitis](#)

#### **References:**

Downham, T. F. 1986. Science has got its hands on poison-ivy, poison-oak, and poison-sumac. U.S. Dep. Agric. For. Serv. Man. N., 47: 23-28.

Epstein, W. L., Byers, V. S. 1981. Poison oak and poison ivy dermatitis. Prevention and treatment in forest service work. U.S. Dep. Agric. For. Serv. Rep., 14 pp.

Gayer, K. D., Burnett, J. W. 1988. *Toxicodendron* dermatitis. Cutis, 42: 99-100.

Goldsmith, M. F. 1984. Sensitivity test may aid in avoiding 'poison' plant-induced dermatitis. J. Am. Med. Assoc., 251: 1389-1390.

Guin, J. D. 1980. Reaction time in experimental poison ivy dermatitis. *Contact Dermatitis*, 6:289-290.

Mulligan, G. A., Junkins, B. E. 1977. The biology of Canadian weeds 23. *Rhus radicans* L. *Can. J. Plant Sci.*, 57: 515-523.

Mulligan, G. A. 1990. Poison ivy. Western poison oak. Poison sumac. *Agric. Can. Publ.*, 1699. 13 pp.

Schwartz, R. S. 1981. Erythema multiforme associated with *Rhus* contact dermatitis. *Cutis*, 27: 85-86.

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## [Notes on poisoning: poison suckleya](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Poison suckleya (*Suckleya suckleyana*) is a native herb found in the southern Saskatchewan and southern Alberta. This plant has caused losses of cattle and possibly sheep in the western United States. The plant is not normally ingested, but in times of scarce forage, it may be eaten in sufficient amounts to cause death. It contains an unknown cyanogenic glycoside that upon ingestion of sufficient quantity can release cyanide in the animal system, resulting in cytotoxic hypoxia. Experiments with cattle, sheep, laboratory rabbits, and guinea pigs have shown the cyanogenic potential of poison suckleya. This plant is not usually ingested by animals and is not common in the southern prairies. However, poisoning can occur (Thorp and Deem 1938, Berry and Gonzales 1986).

### References:

Thorp, F., Deem, A. W. 1938. *Suckleya suckleyana*, a poisonous plant. J. Am. Vet. Med. Assoc., 47: 192-197.

### Nomenclature:

Scientific Name: *Suckleya suckleyana* (Torr.) Rydb.

Vernacular name(s): poison suckleya

Scientific family name: *Chenopodiaceae*

Vernacular family name: goosefoot

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Suckleya suckleyana](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.



Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

poison suckleya:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Berry, T. J., Gonzales, P. 1986. Do your cattle-owning clients know about this poisonous range plant? Vet. Med., 81: 1055-1056.

### **Notes on Toxic plant chemicals:**

An unknown cyanogenic glycoside is found in poison suckleya. Upon ingestion, cyanide is released in the animal's system. The cyanide potential of this plant was measured at 0.01-0.24%. After fasting, sheep showed transitory symptoms, with forced feedings of large amounts of the plant containing 0.011% cyanide potential. Plant material measured at 0.0364% cyanide potential is lethal to cattle, guinea pigs, and sheep (Thorp and Deem 1938).

### **Toxic plant chemicals:**

unknown chemical

## References:

Berry, T. J., Gonzales, P. 1986. Do your cattle-owning clients know about this poisonous range plant? *Vet. Med.*, 81: 1055-1056.

Thorp, F., Deem, A. W. 1938. *Suckleya suckleyana*, a poisonous plant. *J. Am. Vet. Med. Assoc.*, 47: 192-197.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Cattle

### General symptoms of poisoning:

[breathing, labored](#)

[cyanosis](#)

[death by asphyxiation](#)

[gait, staggering](#)

[muscle twitching](#)

### Notes on poisoning:

Ingesting abundant plant material causes cyanide to be released into cattle. Symptoms include glassy eyes, muscular twitching, dribbling urine, staggering, cyanosis, fast and weak heart, labored breathing, spasms, and death by asphyxiation. Postmortem findings showed black-colored blood, congestion of the mucous membrane on the folds of the abomasum and initial part of the duodenum, and a distended bladder. Treatment includes intravenous sodium nitrate and sodium thiosulfate, with a laxative to remove plant material from the rumen (Thorpe and Deem 1938, Berry and Gonzales 1986).

## References:

Thorp, F., Deem, A. W. 1938. *Suckleya suckleyana*, a poisonous plant. *J. Am. Vet. Med. Assoc.*, 47: 192-197.

## Sheep

### General symptoms of poisoning:

[collapse](#)

[death by asphyxiation](#)

[dyspnea](#)

[heart rate, slow](#)

[salivation](#)

### Notes on poisoning:

On the rangelands of the western United States, sheep were believed to have died as a result of ingesting poison suckleya.

Sheep were experimentally poisoned after they were force-fed plant material. Sickness and death resulted. Symptoms were similar to those of cattle that died from cytotoxic hypoxia (Thorpe and Deem 1938).

**References:**

Thorp, F., Deem, A. W. 1938. *Suckleya suckleyana*, a poisonous plant. J. Am. Vet. Med. Assoc., 47: 192-197.

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## [Notes on poisoning: poison sumac](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Poison sumac (*Rhus vernix*; synonymy *Toxicodendron vernix*) is a native shrub or vine found in southern Quebec and southern Ontario. The sap of this plant contains the allergen urushiol. The chemical is released when plant tissue is damaged. Humans are highly sensitive to allergic reaction, although at least one exposure is needed for sensitization. Mild to severe dermatitis can result from exposure to poison sumac (Mulligan 1990, Gayer and Burnett 1988).

### References:

Epstein, W. L., Byers, V. S. 1981. Poison oak and poison ivy dermatitis. Prevention and treatment in forest service work. U.S. Dep. Agric. For. Serv. Rep., 14 pp.

Gayer, K. D., Burnett, J. W. 1988. *Toxicodendron* dermatitis. *Cutis*, 42: 99-100.

Mulligan, G. A. 1990. Poison ivy. Western poison oak. Poison sumac. *Agric. Can. Publ.*, 1699. 13 pp.

### Nomenclature:

Scientific Name: *Rhus vernix* L.

Vernacular name(s): poison sumac

Scientific family name: *Anacardiaceae*

Vernacular family name: cashew

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rhus vernix](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. *Agric. Can. Publ.*,

Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

poison sumac:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Most parts of poison sumac contain the allergen except the pollen, anthers, xylem, and epidermis. Damage to plant parts releases the sap that contains the allergen (Mulligan 1990). The allergen occurs in the plant sap, which is found in all plant parts except the pollen, anthers, xylem, and epidermis. If the stems are damaged they can release the allergen, even in the winter. The roots are also dangerous (Mulligan 1990).

### **Toxic parts:**

all parts  
leaves  
mature fruit  
plant juices  
roots  
stems

### **References:**

Epstein, W. L., Byers, V. S. 1981. Poison oak and poison ivy

dermatitis. Prevention and treatment in forest service work. U.S. Dep. Agric. For. Serv. Rep., 14 pp.

Mulligan, G. A. 1990. Poison ivy. Western poison oak. Poison sumac. Agric. Can. Publ., 1699. 13 pp.

### **Notes on Toxic plant chemicals:**

Urushiol, an group of alkylcatechols, is found in the sap of poison sumac. The allergen is nonvolatile and can contaminate clothing, tools, and domestic animals. The allergen can be hazardous for a long time if the contaminated object remains dry (Gayer and Burnett 1988). See poison-ivy ([Rhus radicans](#)) for additional information.

### **Toxic plant chemicals:**

urushiol oil

### **References:**

Epstein, W. L., Byers, V. S. 1981. Poison oak and poison ivy dermatitis. Prevention and treatment in forest service work. U.S. Dep. Agric. For. Serv. Rep., 14 pp.

Gayer, K. D., Burnett, J. W. 1988. *Toxicodendron* dermatitis. *Cutis*, 42: 99-100.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[blistering](#)

[blisters, weeping](#)

[itchiness](#)

[temperature, elevated](#)

### **References:**

Epstein, W. L., Byers, V. S. 1981. Poison oak and poison ivy dermatitis. Prevention and treatment in forest service work. U.S. Dep. Agric. For. Serv. Rep., 14 pp.

Mulligan, G. A. 1990. Poison ivy. Western poison oak. Poison sumac. Agric. Can. Publ., 1699. 13 pp.

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## [Notes on poisoning: poison-hemlock](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Poison-hemlock (*Conium maculatum*) is a naturalized herb found in parts of southern Canada. The plant grows on dry to moist soils. Cattle, goats, horses, swine, and sheep as well as rabbits, poultry, deer, and humans have been poisoned after ingesting poison-hemlock. Animal species vary in their susceptibility to acute toxicity (Keeler et al. 1980):

|       |                        |           |
|-------|------------------------|-----------|
| cows  | 3.3 mg/kg body weight  | 1.5-2 h   |
| ewes  | 44 mg/kg body weight   | 1.5-2 h   |
| mares | 15.5 mg/kg body weight | 30-40 min |

Poison-hemlock causes toxicity and death in animals after it is ingested. It also causes teratogenic effects called crooked calf disease in young pigs and cattle, caused by the chemical coniine (Keeler 1974, Panter et al. 1985).

### References:

Anon. 1951. Unusual case of hemlock poisoning in swine. Calif. Vet., 5(2): 26.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Edmonds, L. D., Selby, L. A., Case, A. A. 1972. Poisoning and congenital malformations associated with consumption of poison hemlock by sows. J. Am. Vet. Med. Assoc., 160: 1319-1324.

Frank, A. A., Reed, W. M. 1987. *Conium maculatum* (poison hemlock) toxicosis in a flock of range turkeys. Avian Dis., 31: 386-388.

Hannam, D. A. 1985. Hemlock (*Conium maculatum*) poisoning in the pig. Vet. Rec., 116: 322.

Keeler, R. F., Balls, L. D., Shupe, J. L., Crowe, M. W. 1980. Teratogenicity and toxicity of coniine in cows, ewes and mares.



Cornell Vet., 70: 19-26.

Keeler, R. F. 1974. Coniine, a teratogenic principle from *Conium maculatum* producing congenital malformations in calves. Clin. Toxicol., 7: 195-206.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

MacDonald, H. 1937. Hemlock poisoning in horses. Vet. Rec., 49: 1211-1212.

Panter, K. E., Bunch, T. D., Keeler, R. F. 1988. Maternal and fetal toxicity of poison hemlock (*Conium maculatum*) in sheep. Am. J. Vet. Res., 49: 281-283.

Panter, K. E., Keeler, R. F., Baker, D. C. 1988. Toxicoses in livestock from the hemlocks (*Conium* and *Cicuta* spp.). J. Anim. Sci., 66: 2407-2413.

Panter, K. E., Keeler, R. F., Buck, W. B. 1985. Congenital skeletal malformations induced by maternal ingestion of *Conium maculatum* (poison hemlock) in newborn pigs. Am. J. Vet. Res., 46: 2064-2066.

Panter, K. E., Keeler, R. F. 1989. Piperidine alkaloids of poison hemlock (*Conium maculatum*). Pages 109-132 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

Penny, R. H. 1953. Hemlock poisoning in cattle. Vet. Rec., 42: 669-670.

Short, S. B., Edwards, W. C. 1989. Accidental *Conium maculata* poisoning in the rabbit. Vet. Hum. Toxicol., 31(1): 54-57.

Widmer, W. R. 1984. Poison hemlock toxicosis in swine. Vet. Med. Small Anim. Clin., 79: 405-408.

### **Nomenclature:**

Scientific Name: *Conium maculatum* L.

Vernacular name(s): poison-hemlock

Scientific family name: *Umbelliferae*

Vernacular family name: parsley

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Conium maculatum](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du

Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia

Nova Scotia

Ontario

Quebec

Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

poison-hemlock:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of poison-hemlock contain some level of the alkaloids, except for the sap in young plants. The most toxic chemical, gamma-coniceine is abundant in leaves flowers and less common in the fruits, where it is quickly converted to coniine and N-methylconiine (Cromwell 1956).

### **Toxic parts:**

flowers

leaves

mature fruit

roots  
seeds  
stems  
young shoots

**References:**

- Anon. 1951. Unusual case of hemlock poisoning in swine. Calif. Vet., 5(2): 26.
- Cromwell, B. T. 1956. The separation, micro-estimation and distribution of the alkaloids of hemlock (*Conium maculatum* L.). Biochem. J., 64: 259-266.
- Edmonds, L. D., Selby, L. A., Case, A. A. 1972. Poisoning and congenital malformations associated with consumption of poison hemlock by sows. J. Am. Vet. Med. Assoc., 160: 1319-1324.
- Fairbairn, J. W., Suwal, P. N. 1961. The alkaloids of hemlock (*Conium maculatum* L.) - II. Phytochemistry (Oxf.), 1: 38-46.
- Frank, A. A., Reed, W. M. 1987. *Conium maculatum* (poison hemlock) toxicosis in a flock of range turkeys. Avian Dis., 31: 386-388.
- Hannam, D. A. 1985. Hemlock (*Conium maculatum*) poisoning in the pig. Vet. Rec., 116: 322.
- MacDonald, H. 1937. Hemlock poisoning in horses. Vet. Rec., 49: 1211-1212.
- Panter, K. E., Keeler, R. F. 1989. Piperidine alkaloids of poison hemlock (*Conium maculatum*). Pages 109-132 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.
- Penny, R. H. 1953. Hemlock poisoning in cattle. Vet. Rec., 42: 669-670.
- Widmer, W. R. 1984. Poison hemlock toxicosis in swine. Vet. Med. Small Anim. Clin., 79: 405-408.

**Notes on Toxic plant chemicals:**

gamma-Coniceine is the precursor of the other alkaloids in poison-hemlock. This chemical is a partly unsaturated piperidine alkaloid. The other chemicals, including coniine and N-methylconiine, are saturated. During the first year of growth, gamma-coniceine is the predominant chemical. During the second year of growth, the content of both coniine and N-methylconiine increase, especially in the leaves and fruits, with a decrease in the first chemical. gamma-Coniceine is considered seven or eight times more toxic than coniine, with N-methylconiine even less toxic (Cromwell 1956, Fairbairn and Suwal 1961, Panter and Keeler 1989).

The following LD50 toxicities in mice have been reported (Bowman and Snaghvi 1963):

| gamma-coniceine           | death time |
|---------------------------|------------|
| 2.6 mg/kg (intravenous)   | 30 sec     |
| 12.0 mg/kg (subcutaneous) | 12 min     |
| 12.0 mg/kg (oral)         | 8 min      |

| coniine                  | death time |
|--------------------------|------------|
| 19.0 mg/kg (intravenous) | 30 sec     |
| 80 mg/kg (subcutaneous)  | 15 min     |
| 100 mg/kg (oral)         | 10 min     |

| N-methylconiine            | death time |
|----------------------------|------------|
| 27.5 mg/kg (intravenous)   | 30 sec     |
| 150.5 mg/kg (subcutaneous) | 16 min     |
| 204.5 mg/kg (oral)         | 12 min     |

### Toxic plant chemicals:

coniine  
gamma-coniceine  
N-methylconiine

### References:

Bowman, W. C., Snaghvi, I. S. 1963. Pharmacological actions of hemlock (*Conium maculatum*) alkaloids. *J. Pharm. Pharmacol.*, 15: 1.

Cromwell, B. T. 1956. The separation, micro-estimation and distribution of the alkaloids of hemlock (*Conium maculatum* L.). *Biochem. J.*, 64: 259-266.

Fairbairn, J. W., Suwal, P. N. 1961. The alkaloids of hemlock (*Conium maculatum* L.) - II. *Phytochemistry (Oxf.)*, 1: 38-46.

Keeler, R. F., Balls, L. D., Shupe, J. L., Crowe, M. W. 1980. Teratogenicity and toxicity of coniine in cows, ewes and mares.

Cornell Vet., 70: 19-26.

Keeler, R. F. 1974. Coniine, a teratogenic principle from *Conium maculatum* producing congenital malformations in calves. Clin. Toxicol., 7: 195-206.

Panter, K. E., Bunch, T. D., Keeler, R. F. 1988. Maternal and fetal toxicity of poison hemlock (*Conium maculatum*) in sheep. Am. J. Vet. Res., 49: 281-283.

Panter, K. E., Keeler, R. F., Baker, D. C. 1988. Toxicoses in livestock from the hemlocks (*Conium* and *Cicuta* spp.). J. Anim. Sci., 66: 2407-2413.

Panter, K. E., Keeler, R. F., Buck, W. B. 1985. Congenital skeletal malformations induced by maternal ingestion of *Conium maculatum* (poison hemlock) in newborn pigs. Am. J. Vet. Res., 46: 2064-2066.

Panter, K. E., Keeler, R. F. 1989. Piperidine alkaloids of poison hemlock (*Conium maculatum*). Pages 109-132 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[arthrogryposis](#)  
[breathing, rapid](#)  
[carpal joint, flexure](#)  
[depression](#)  
[diarrhea](#)  
[elbow joint, flexure](#)  
[gait, unsteady](#)  
[incoordination](#)  
[limbs, lateral rotation](#)  
[muscle spasms](#)  
[salivation](#)  
[scoliosis](#)  
[teeth grinding](#)  
[torticollis](#)  
[trembling](#)  
[urine, coffee-colored](#)  
[vomiting](#)

#### **Notes on poisoning:**

General signs of poisoning in all types of livestock include apathy, salivation, frequent regurgitation, teeth grinding, and reduced milk production. For a lethal dose, cattle require coniine at a rate of

about 16 mg/kg of body weight (Keeler et al. 1980).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Keeler, R. F. 1974. Coniine, a teratogenic principle from *Conium maculatum* producing congenital malformations in calves. Clin. Toxicol., 7: 195-206.

Panter, K. E., Keeler, R. F., Baker, D. C. 1988. Toxicoses in livestock from the hemlocks (*Conium* and *Cicuta* spp.). J. Anim. Sci., 66: 2407-2413.

Penny, R. H. 1953. Hemlock poisoning in cattle. Vet. Rec., 42: 669-670.

### **Horses**

#### **General symptoms of poisoning:**

[collapse](#)

[trembling](#)

[unconsciousness](#)

#### **Notes on poisoning:**

Horses exhibit symptoms similar to other types of livestock that have ingested poison-hemlock. Trembling and paralysis are common symptoms.

### **References:**

MacDonald, H. 1937. Hemlock poisoning in horses. Vet. Rec., 49: 1211-1212.

### **Humans**

#### **General symptoms of poisoning:**

[coma](#)

[convulsions](#)

[death by asphyxiation](#)

[dizziness](#)

[headache](#)

[incoordination](#)

[pupil dilation](#)

[thirsty](#)

[vomiting](#)

#### **Notes on poisoning:**

Poison-hemlock has been ingested on purpose and accidentally. Socrates was executed in 399 B.C. by an extract of this plant.

Humans have accidentally ingested it, mistaking it for carrot or parsnip. The symptoms are similar to those in other animals. Coldness is often felt in the extremities. There is rapid onset of irritation of mucous membranes of the mouth and throat, accompanied by salivation and nausea. Severe poisoning may cause coma and death by respiratory failure. Treatment includes administering activated charcoal after emesis ceases. Treatment is otherwise symptomatic. Despite the severity of poisoning mortality is low (Cooper and Johnson 1984, Lampe and McCann 1985).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Rabbits**

#### **General symptoms of poisoning:**

[ataxia](#)  
[breathing, shallow](#)  
[death](#)  
[trembling](#)  
[weakness](#)

### **References:**

Short, S. B., Edwards, W. C. 1989. Accidental *Conium maculata* poisoning in the rabbit. Vet. Hum. Toxicol., 31(1): 54-57.

### **Sheep**

#### **General symptoms of poisoning:**

[ataxia](#)  
[carpal joint, flexure](#)  
[death](#)  
[defecation, frequent](#)  
[salivation](#)  
[tail, kinked](#)  
[trembling](#)  
[urination, frequent](#)  
[weakness](#)

### **References:**

Panter, K. E., Bunch, T. D., Keeler, R. F. 1988. Maternal and fetal toxicity of poison hemlock (*Conium maculatum*) in sheep. Am. J. Vet. Res., 49: 281-283.

## Swine

### General symptoms of poisoning:

[arthrogryposis](#)  
[articular rigidity](#)  
[ataxia](#)  
[blindness](#)  
[blindness, temporary](#)  
[breathing, labored](#)  
[breathing, rapid](#)  
[carpal joint, flexure](#)  
[collapse](#)  
[death](#)  
[death by asphyxiation](#)  
[fetlock joint, flexure](#)  
[gait, staggering](#)  
[gait, unsteady](#)  
[heart rate, elevated](#)  
[lacrimation, severe](#)  
[palatoschisis](#)  
[paralysis](#)  
[prostration](#)  
[pupil dilation](#)  
[scoliosis](#)  
[syndactylism](#)  
[temperature, elevated](#)  
[trembling](#)  
[urination, frequent](#)  
[vision, impaired](#)  
[weakness](#)

### References:

Anon. 1951. Unusual case of hemlock poisoning in swine. Calif. Vet., 5(2): 26.

Edmonds, L. D., Selby, L. A., Case, A. A. 1972. Poisoning and congenital malformations associated with consumption of poison hemlock by sows. J. Am. Vet. Med. Assoc., 160: 1319-1324.

Hannam, D. A. 1985. Hemlock (*Conium maculatum*) poisoning in the pig. Vet. Rec., 116: 322.

Panter, K. E., Keeler, R. F., Buck, W. B. 1985. Congenital skeletal malformations induced by maternal ingestion of *Conium maculatum* (poison hemlock) in newborn pigs. Am. J. Vet. Res., 46: 2064-2066.

Widmer, W. R. 1984. Poison hemlock toxicosis in swine. Vet. Med. Small Anim. Clin., 79: 405-408.

## Turkeys

### General symptoms of poisoning:



[death](#)  
[diarrhea](#)  
[enteritis](#)  
[kidney, congestion of](#)  
[liver, congestion of](#)  
[lungs, congestion of](#)  
[paralysis](#)  
[salivation](#)  
[weakness](#)

**References:**

Frank, A. A., Reed, W. M. 1987. *Conium maculatum* (poison hemlock) toxicosis in a flock of range turkeys. Avian Dis., 31: 386-388.

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## [Notes on poisoning: pokeweed](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



### **General poisoning notes:**

Pokeweed (*Phytolacca americana*) is a native herb found in the southwestern parts of Ontario and Quebec. The young shoots are used as poke salad and the leaves as a folk medicine or tea. In both cases, the plant material should be boiled at least twice to get rid of the toxin, according to literature reports. Failure to do so has caused poisoning in humans. Ingesting a few berries does not cause problems, but larger quantities, if uncooked, can be toxic to humans. Cattle, horses, sheep, and particularly swine, have been poisoned by ingesting pokeweed plant material. The berries have poisoned young turkeys experimentally (Patterson 1929, Barnett 1975, Callahan et al. 1981, Cooper and Johnson 1984).

### **References:**

Barnett, B. D. 1975. Toxicity of pokeberries (fruit of *Phytolacca americana* Large) for turkey poults. *Poult. Sci.*, 54: 1215-1217.

Callahan, R., Piccola, F., Gensheimer, K., Parkin, W. E., Prusakowski, J., Scheiber, G., Henry, S. 1981. Epidemiologic notes and reports. *Plant poisonings - New Jersey*. U.S. Dep. Health Hum. M. M. W. R., 30: 65-67.

Cooper, M. R., Johnson, A. W. 1984. *Poisonous plants in Britain and their effects on animals and man*. Her Majesty's Stationery Office, London, England. 305 pp.

Jaekle, K. A., Fremon, F. R. 1981. Pokeweed poisoning. *South. Med. J.*, 74: 639-640.

Lawrence, R. A. 1990. The clinical effects of pokeweed root ingestion upon 32 adults. *Vet. Hum. Toxicol.*, 32: 369.

Lewis, W. H., Smith, P. R. 1979. Poke root herbal tea poisoning. *J. Am. Med. Assoc.*, 242: 2759-2760.

Patterson, F. D. 1929. Pokeweed causes heavy losses in swine herd. *Vet. Med. Small Anim. Clin.*, 24: 114.

Stein, Z. L. 1979. Pokeweed-induced gastroenteritis. *Am. J. Hosp. Pharm.*, 36: 1303.

### **Nomenclature:**

Scientific Name: *Phytolacca americana* L.

Vernacular name(s): pokeweed

Scientific family name: *Phytolaccaceae*

Vernacular family name: pokeweed

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Phytolacca americana](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Ontario  
Quebec

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

pokeweed:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

Leaves, young shoots, and roots are poisonous. The berries are considered relatively nontoxic to humans, although toxicity to animals and humans has been reported. Barnett (1974) describes experimental poisoning and death in turkey poults.

**Toxic parts:**

all parts  
leaves  
mature fruit  
roots  
stems  
young shoots

**References:**

Barnett, B. D. 1975. Toxicity of pokeberries (fruit of *Phytolacca americana* Large) for turkey poults. *Poult. Sci.*, 54: 1215-1217.

Callahan, R., Piccola, F., Gensheimer, K., Parkin, W. E., Prusakowski, J., Scheiber, G., Henry, S. 1981. Epidemiologic notes and reports. *Plant poisonings - New Jersey*. U.S. Dep. Health Hum. M. M. W. R., 30: 65-67.

Jaeckle, K. A., Freemon, F. R. 1981. Pokeweed poisoning. *South. Med. J.*, 74: 639-640.

Lawrence, R. A. 1990. The clinical effects of pokeweed root ingestion upon 32 adults. *Vet. Hum. Toxicol.*, 32: 369.

Lewis, W. H., Smith, P. R. 1979. Poke root herbal tea poisoning. *J. Am. Med. Assoc.*, 242: 2759-2760.

Patterson, F. D. 1929. Pokeweed causes heavy losses in swine herd. *Vet. Med. Small Anim. Clin.*, 24: 114.

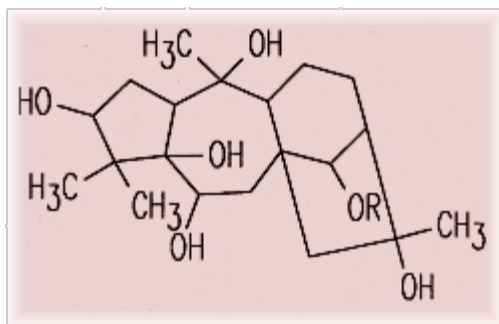
Stein, Z. L. 1979. Pokeweed-induced gastroenteritis. *Am. J. Hosp. Pharm.*, 36: 1303.

**Notes on Toxic plant chemicals:**

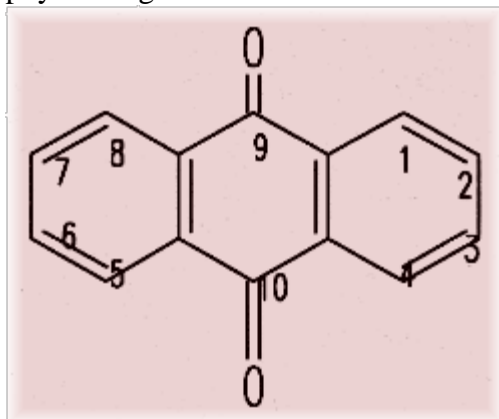
Phytolaccatoxin, a triterpene saponin, has been implicated in pokeweed toxicity. The toxin is water-soluble, which has led to the common assumption that boiling the plant material twice will get rid of toxicity. Such treatment is usually sufficient to remove the toxin (Lampe and McCann 1985).

**Toxic plant chemicals:**

phytolaccatoxin



phytolaccigenin



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

#### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Lewis, W. H., Smith, P. R. 1979. Poke root herbal tea poisoning. J. Am. Med. Assoc., 242: 2759-2760.

#### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Cattle

#### General symptoms of poisoning:

[abortion](#)

[coma](#)

[convulsions](#)

[diarrhea](#)

[vomiting](#)

#### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain

and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Horses**

### **General symptoms of poisoning:**

[convulsions](#)  
[diarrhea](#)  
[gastroenteritis](#)  
[salivation](#)  
[vomiting](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)  
[blood pressure, low](#)  
[breathing, rapid](#)  
[confusion](#)  
[diarrhea](#)  
[dizziness](#)  
[gastroenteritis](#)  
[headache](#)  
[heart rate, elevated](#)  
[nausea](#)  
[salivation](#)  
[stomach cramps](#)  
[stool, bloody](#)  
[sweating](#)  
[thirsty](#)  
[trembling](#)  
[unconsciousness](#)  
[urinary incontinence](#)  
[vomiting](#)  
[weakness](#)

### **Notes on poisoning:**

Symptoms of toxicity include sweating, bloody diarrhea, abdominal pains, weakness, incontinence, vomiting, salivation, unconsciousness, tremors, and blurred vision. Ingesting the leaves or young shoots causes toxicity. Sometimes tea made from the leaves can cause poisoning. Symptomatic treatment and replacement of fluids are recommended (Callahan et al. 1981, Jaeckle and Freeman 1981).

### **References:**

Callahan, R., Piccola, F., Gensheimer, K., Parkin, W. E., Prusakowski, J., Scheiber, G., Henry, S. 1981. Epidemiologic notes and reports. Plant poisonings - New Jersey. U.S. Dep. Health Hum. M. M. W. R., 30: 65-67.

Jaeckle, K. A., Freemon, F. R. 1981. Pokeweed poisoning. South. Med. J., 74: 639-640.

Lawrence, R. A. 1990. The clinical effects of pokeweed root ingestion upon 32 adults. Vet. Hum. Toxicol., 32: 369.

Lewis, W. H., Smith, P. R. 1979. Poke root herbal tea poisoning. J. Am. Med. Assoc., 242: 2759-2760.

Stein, Z. L. 1979. Pokeweed-induced gastroenteritis. Am. J. Hosp. Pharm., 36: 1303.

## **Sheep**

### **General symptoms of poisoning:**

[diarrhea](#)

[drowsiness](#)

[gastroenteritis](#)

[vomiting](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Swine**

### **General symptoms of poisoning:**

[death](#)

[gait, unsteady](#)

[gastroenteritis](#)

[liver, congestion of](#)

[muscle twitching](#)

[paralysis, posterior](#)

### **Notes on poisoning:**

Swine are most frequently poisoned by pokeweed. Symptoms include staggering, vomiting, posterior paralysis, tremors, and death. Post-mortem findings show swollen, dark liver and severe hemorrhagic gastritis (Patterson 1929).

### **References:**

Patterson, F. D. 1929. Pokeweed causes heavy losses in swine herd. Vet. Med. Small Anim. Clin., 24: 114.

## Turkeys

### General symptoms of poisoning:

[ascites](#)  
[gall bladder, enlarged](#)  
[hock, swollen](#)  
[weight gain, reduced](#)

### Notes on poisoning:

Experimental feeding of mashed berries to turkey poults caused weight-gain reduction, ascites, and swollen hocks, causing unsteadiness. Enlarged gall bladder filled with brown fluid was common in dead birds. Wild birds ingest the berries and spread seeds; no toxic cases have been mentioned. Chickens are not poisoned by the berries (Barnett 1975, Cooper and Johnson 1984).

### References:

Barnett, B. D. 1975. Toxicity of pokeberries (fruit of *Phytolacca americana* Large) for turkey poults. *Poult. Sci.*, 54: 1215-1217.

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## [Notes on poisoning: ponderosa pine](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Ponderosa pine (*Pinus ponderosa*) is a native tree in British Columbia. Pregnant cows that ingest the needles abort within 2 days to 2 weeks. Calves near full term may be born in good condition. Cows in the third trimester are affected; the problem usually occurs during winter and spring, when forage is scarce. Cows may retain the placenta. If medical attention is not given, a high degree of fatality can occur. Annual losses in the entire western United States have been estimated at 4.5 million dollars. This problem has also occurred in British Columbia (MacDonald 1952, Stevenson et al. 1972, Gartner et al. 1988, Lacey et al. 1988).

### References:

Gartner, F. R., Johnson, F. D., Morgan, P. 1988. Cattle abortion from ponderosa pine needles: ecological and range management considerations. Pages 71-94 in James, L. F., Ralphs, M. H., Nielsen, D. B., eds. The ecology and economic impact of poisonous plants on livestock production. Westview Press, Boulder, Colo., USA. 428 pp.

James, L. F., Call, J. W. 1972. Pine-needle (*Pinus ponderosa*) - induced abortion in range cattle. Cornell Vet., 62: 519-524.

Lacey, J. R., James, L. F., Short, R. E. 1988. Ponderosa pine: economic impact. Pages 95-106 in James, L. F., Ralphs, M. H., Nielsen, D. B., eds. The ecology and economic impact of poisonous plants on livestock production. Westview Press, Boulder, Colo., USA. 428 pp.

MacDonald, M. A. 1952. Pine needle abortion in range beef cattle. J. Range Manage., 5: 150-155.

Molyneux, R. J., Baker, D. C., Short, R. E. 1988. Effects of various parts of the ponderosa pine on bovine pregnancy. J. Anim. Sci., 66(1): 372.

Murdoch, W. J., Becerra, V. M., Mills, K. W., Robinson, J. L. 1989. Evaluation of histopathologic and physiologic changes in cows having premature births after consuming ponderosa pine needles. Am. J. Vet. Res., 50: 285-289.

### Nomenclature:

Scientific Name: *Pinus ponderosa* Dougl.

Vernacular name(s): ponderosa pine

Scientific family name: *Pinaceae*

Vernacular family name: pine

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Pinus ponderosa](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

British Columbia

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

ponderosa pine:

Images: [images.google.com](http://images.google.com)

### Toxic parts:

needles (pine)

young shoots

### **References:**

Gartner, F. R., Johnson, F. D., Morgan, P. 1988. Cattle abortion from ponderosa pine needles: ecological and range management considerations. Pages 71-94 in James, L. F., Ralphs, M. H., Nielsen, D. B., eds. The ecology and economic impact of poisonous plants on livestock production. Westview Press, Boulder, Colo., USA. 428 pp.

James, L. F., Call, J. W. 1972. Pine-needle (*Pinus ponderosa*) - induced abortion in range cattle. Cornell Vet., 62: 519-524.

MacDonald, M. A. 1952. Pine needle abortion in range beef cattle. J. Range Manage., 5: 150-155.

Molyneux, R. J., Baker, D. C., Short, R. E. 1988. Effects of various parts of the ponderosa pine on bovine pregnancy. J. Anim. Sci., 66(1): 372.

Murdoch, W. J., Becerra, V. M., Mills, K. W., Robinson, J. L. 1989. Evaluation of histopathologic and physiologic changes in cows having premature births after consuming ponderosa pine needles. Am. J. Vet. Res., 50: 285-289.

### **Notes on Toxic plant chemicals:**

Although no chemical has been proved to cause toxicity and abortion in cattle, several toxic compounds have been suspected, including diterpene resin acids. Additional factors such as stage of gestation when ingestion occurs, environmental stress, and condition of the cow compound the problem. Inducing experimental abortion has not been consistent (Gartner et al. 1988).

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Gartner, F. R., Johnson, F. D., Morgan, P. 1988. Cattle abortion from ponderosa pine needles: ecological and range management considerations. Pages 71-94 in James, L. F., Ralphs, M. H., Nielsen, D. B., eds. The ecology and economic impact of poisonous plants on livestock production. Westview Press, Boulder, Colo., USA. 428 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

## General symptoms of poisoning:

[abortion](#)

[cervix dilation,narrow](#)

[death](#)

[fetus, dead](#)

[metritis septic](#)

[parturition, early](#)

[placenta, persistent](#)

[progesterone,decreased](#)

[uterine hemorrhage](#)

## References:

James, L. F., Call, J. W. 1972. Pine-needle (*Pinus ponderosa*) - induced abortion in range cattle. Cornell Vet., 62: 519-524.

MacDonald, M. A. 1952. Pine needle abortion in range beef cattle. J. Range Manage., 5: 150-155.

Molyneux, R. J., Baker, D. C., Short, R. E. 1988. Effects of various parts of the ponderosa pine on bovine pregnancy. J. Anim. Sci., 66(1): 372.

Murdoch, W. J., Becerra, V. M., Mills, K. W., Robinson, J. L. 1989. Evaluation of histopathologic and physiologic changes in cows having premature births after consuming ponderosa pine needles. Am. J. Vet. Res., 50: 285-289.

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| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: potato](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### **General poisoning notes:**

Potato (*Solanum tuberosum*) is a common introduced garden plant cultivated for its edible tubers. The entire plant contains toxic glycoalkaloids but usually in harmless quantities in the edible tubers. However, in the presence of light, the tubers photosynthesize and coincidentally increase the amount of toxins. The skin, eyes, and sprouts of the tubers can develop toxic amounts. Even the flesh of the tuber can develop toxic quantities of the glycoalkaloids. Cattle, sheep, and swine as well as humans were poisoned and died after ingesting parts of potato plant. Other animals were also been poisoned experimentally. A dog became comatose after ingesting green potato tubers. The aboveground plant portion can also be toxic. The berries produced by the plant can contain 10-20 times more glycoalkaloids than the tubers (Cooper and Johnson 1984). The glycoalkaloids solanine and chaconine are not destroyed by normal cooking. Alkaloidal levels above 20 mg/100 g are considered unsafe for human consumption. Some cultivars have naturally high concentrations of alkaloids and have been rejected for use. Care should be taken to store potatoes in light-proof paper bags. If any green-colored potatoes are found, they should be discarded. Potato peelings and sprouts destined for a compost heap should be buried and kept from dogs or other animals. Sharma and Salunkhe (1989) provide an excellent review of potatoes and toxins and their effects on animals.

### **References:**

- Clay, B. R., Edwards, W. C., Peterson, D. R. 1976. Toxic nitrate accumulation in the sorghums. *Bovine Pract.*, 11: 28-32.
- Cooper, M. R., Johnson, A. W. 1984. *Poisonous plants in Britain and their effects on animals and man.* Her Majesty's Stationery Office, London, England. 305 pp.
- Keeler, R. F., Baker, D. C., Gaffield, W. 1990. Spirosolane-containing *Solanum* species and induction of congenital craniofacial malformations. *Toxicol.*, 28: 873-884.
- McMillan, M., Thompson, J. C. 1979. An outbreak of suspected solanine poisoning in schoolboys: examination of criteria of solanine poisoning. *Q. J. Med.*, 48: 227-243.

Sharma, R. P., Salunkhe, D. K. 1989. *Solanum* glycoalkaloids. Pages 179-236 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

**Nomenclature:**

Scientific Name: *Solanum tuberosum* L.

Vernacular name(s): potato

Scientific family name: *Solanaceae*

Vernacular family name: nightshade

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Solanum tuberosum](#)

**References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

**Geographic Information**

Plant or plant parts used in or around the home.

**References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

**Image or illustration**

potato:

**Images:** [images.google.com](http://images.google.com)

**Notes on Poisonous plant parts:**

Potato tubers can develop toxic levels of glycoalkaloids if they are exposed to sunlight. The development of the toxins coincides with the production of chlorophyll in the presence of light. The toxins are highest in the skin, eyes, and sprouts. In a test on rats fed 10% sprouts from early pregnancy, 55% of litters died because of failure to lactate. Potato cultivars, such as "Lenape" have been developed with natural toxic levels of alkaloids in the tubers; these cultivars have not been released for use. The leaves, stems, and berries of potato also contain toxic substances. The concentration of alkaloids in the berries may be 10-20 times that of the tubers (Butterworth and Pelling 1980, Cooper and Johnson 1984, Cheeke and Schull 1985, Salunkhe 1989).

**Toxic parts:**

immature fruit  
leaves  
stems  
tubers

**References:**

Butterworth, K. R., Pelling, D. 1980. Are potato 'apples' toxic? J. Pharm. Pharmacol., 32: 79 P.

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

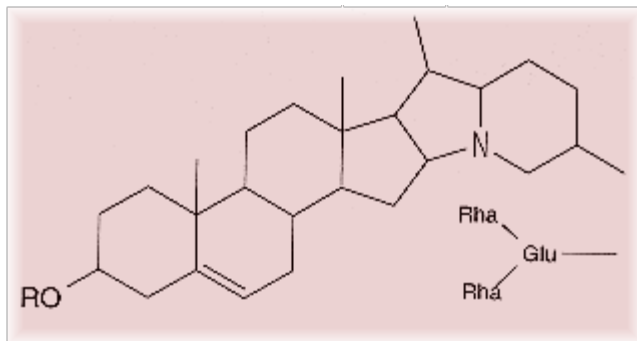
Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Notes on Toxic plant chemicals:**

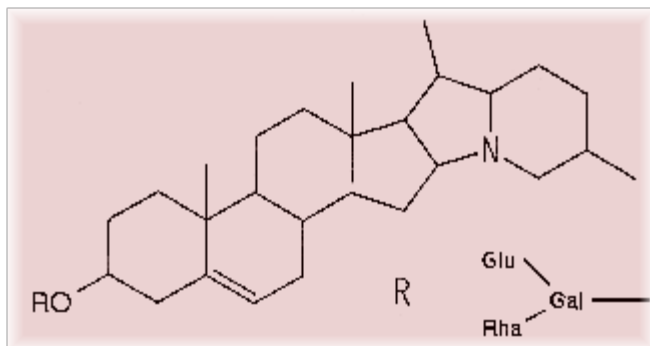
Two glycoalkaloids, alpha-solanine and alpha-chaconine, are the major alkaloids in potatoes. The major effects are gastrointestinal tract irritation and nervous system impairment. Exposing the potato tubers to light may increase the concentration of glycoalkaloids to 0.05% in the tuber instead of the usual 0.008%. Potatoes are now screened for toxin levels, which must be below 20 mg/100 g. Levels above 14 mg/100 g are bitter. One variety developed in the 1960s, "Lenape", had levels over 30 mg/100 g and was rejected. Berries of potatoes have also been tested and an LD-50 of 677 g/kg was found in mice. It has been estimated that ingesting 400 g of potato berries would be required to induce symptoms in humans (Butterworth and Pelling 1980, Filadelfi 1982; Cooper and Johnson 1984, Sharma and Salunkhe 1989).

**Toxic plant chemicals:**

### chaconine



### solanine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Butterworth, K. R., Pelling, D. 1980. Are potato 'apples' toxic? *J. Pharm. Pharmacol.*, 32: 79 P.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Filadelfi, M. A. 1982. Naturally occurring toxicants in the potato. *Herbarist*, 48: 21-23.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

### General symptoms of poisoning:

[anemia](#)

[anorexia](#)

[convulsions](#)

[death](#)

[diarrhea](#)

[restlessness](#)



### **Notes on poisoning:**

Cattle were poisoning after they were given access to green, decayed, or sprouting potatoes. In Europe, feeding large quantities of stored potatoes to young cattle over long periods is recognised as causing severe anemia (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Dogs**

#### **General symptoms of poisoning:**

[breathing, labored](#)  
[coma](#)  
[pupil dilation](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Humans**

#### **General symptoms of poisoning:**

[abdominal pains](#)  
[confusion](#)  
[death](#)  
[drowsiness](#)  
[gastroenteritis](#)  
[hallucination](#)  
[headache](#)  
[trembling](#)  
[vomiting](#)

### **Notes on poisoning:**

Ingesting potatoes with green flesh, skin, or tubers causes sickness and, in some cases, human fatalities. Symptoms of ingestion include those common to gastrointestinal problems and nervous disorders. Clinical signs include headache, vomiting, diarrhea and abdominal pain. Neurological symptoms include apathy, restlessness, drowsiness, stupor, confusion, hallucinations, dizziness, trembling, and visual impairment. In severe cases, fatalities occur. Certain birth defects are believed to result from ingesting potatoes infected with potato blight (*Phytophthora infestans*). However, no definitive proof has been found yet (McMillan and Thompson 1979, Sharma and Salunkhe 1989).

## References:

McMillan, M., Thompson, J. C. 1979. An outbreak of suspected solanine poisoning in schoolboys: examination of criteria of solanine poisoning. *Q. J. Med.*, 48: 227-243.

Sharma, R. P., Salunkhe, D. K. 1989. *Solanum* glycoalkaloids. Pages 179-236 in Cheeke, P. R., ed. *Toxicants of plant origin*. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

## Rodents

### General symptoms of poisoning:

[craniofacial problems](#)

[gastroenteritis](#)

### Notes on poisoning:

Pregnant hamsters were gavaged with potato sprout material. Some dams died as a result of experimentally ingesting sprout material. Fetal craniofacial malformations occurred in 24% of cases (Keeler et al. 1990).

## References:

Keeler, R. F., Baker, D. C., Gaffield, W. 1990. Spirosolane-containing *Solanum* species and induction of congenital craniofacial malformations. *Toxicol.*, 28: 873-884.

## Sheep

### General symptoms of poisoning:

[death](#)

[incoordination](#)

[weakness](#)

## References:

Cooper, M. R., Johnson, A. W. 1984. *Poisonous plants in Britain and their effects on animals and man*. Her Majesty's Stationery Office, London, England. 305 pp.

## Swine

### General symptoms of poisoning:

[anorexia](#)

[coma](#)

[convulsions](#)

[diarrhea](#)

[incoordination](#)

[pupil dilation](#)

[restlessness](#)

[salivation](#)

[vomiting](#)  
[weakness](#)

**Notes on poisoning:**

In Europe, swine that ingested potatoes were poisoned and subsequently died. Some animals died suddenly, whereas others showed signs of incoordination, convulsions, and appeared dazed. Additional symptoms included anorexia, excess salivation, vomiting, diarrhea or constipation, and circulatory failure. Some cases required amputation, resulting from necrosis of the feet (Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: precatory-pea](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Precatory-pea (*Abrus precatorius*) seeds contain a chemical called abrin, which is highly toxic. A single well-masticated seed can kill an adult human (Kingsbury 1964).

In Canada the seeds of this plant are imported into the country on necklaces and perhaps on other decorative items. These attractive seeds are shiny, red, and black and about 5-8 mm long (Hoy and Catling 1981).

### References:

- Davis, J. H. 1978. *Abrus precatorius* (rosary pea). The most common lethal plant poison. J. Fla. Med. Assoc., 65: 189-191.
- Gunn, C. R. 1969. *Abrus precatorius*: a deadly gift. Gard. J., 19:2-5.
- Hoy, D. L., Catling, P. M. 1981. Necklaces from nature - seed jewelry. Davidsonia, 12: 63-77.
- Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.
- Stirpe, F., Barbieri, L. 1986. Ribosome-inactivating proteins up to date. FEBS (Fed. Eur. Biochem. Soc.) Lett., 195: 1-8.

### Nomenclature:

Scientific Name: *Abrus precatorius* L.

Vernacular name(s): precatory-pea

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Abrus precatorius](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que.,

Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

precatory-pea:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

seeds

### **References:**

Davis, J. H. 1978. *Abrus precatorius* (rosary pea). The most common lethal plant poison. J. Fla. Med. Assoc., 65: 189-191.

Gunn, C. R. 1969. *Abrus precatorius*: a deadly gift. Gard. J., 19:2-5.

Hoy, D. L., Catling, P. M. 1981. Necklaces from nature - seed jewelry. Davidsonia, 12: 63-77.

### **Notes on Toxic plant chemicals:**

Abrin is a lectin of *Abrus precatorius* and is a ribosome-inactivating protein. This chemical is regarded as one of the most

deadly plant toxins known.

LD-50: 0.56 micro gm/kg in mice (Stirpe and Barbieri 1986). Kingsbury (1964) states that a toxicity dose is about 0.00015% of a human subject's weight. A single well-masticated seed can kill an adult. Abrin causes large-scale disruption in lymphoid tissues, with apoptotic cell death. Apoptotic bodies have increased in the small intestine of experimental rats (Griffiths et al. 1987).

### **Toxic plant chemicals:**

abrin

### **References:**

Davis, J. H. 1978. *Abrus precatorius* (rosary pea). The most common lethal plant poison. J. Fla. Med. Assoc., 65: 189-191.

Griffiths, G. D., Leek, M. D., Gee, D. J. 1987. The toxic plant proteins ricin and abrin induce apoptotic changes in mammalian lymphoid tissues and intestine. J. Pathol., 151: 221-229.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Stirpe, F., Barbieri, L. 1986. Ribosome-inactivating proteins up to date. FEBS (Fed. Eur. Biochem. Soc.) Lett., 195: 1-8.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[cecum, red and inflamed](#)

[cerebral edema](#)

[death](#)

[diarrhea](#)

[gastric mucosa, purple](#)

[nausea](#)

[stomach, gray mucous](#)

[vomiting](#)

### **References:**

Davis, J. H. 1978. *Abrus precatorius* (rosary pea). The most common lethal plant poison. J. Fla. Med. Assoc., 65: 189-191.

Gunn, C. R. 1969. *Abrus precatorius*: a deadly gift. Gard. J., 19:2-5.

Hoy, D. L., Catling, P. M. 1981. Necklaces from nature - seed jewelry. Davidsonia, 12: 63-77.

## **Rodents**

### **General symptoms of poisoning:**

[death](#)

### **References:**

Stirpe, F., Barbieri, L. 1986. Ribosome-inactivating proteins up to date. FEBS (Fed. Eur. Biochem. Soc.) Lett., 195: 1-8.

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## [Notes on poisoning: prickly comfrey](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Prickly comfrey (*Symphytum asperum*) is a naturalized herb found in parts of southern Canada. The plant contains pyrrolizidine alkaloids, which can cause veno-occlusive symptoms leading to liver cirrhosis. The plant can also accumulate toxic amounts of nitrates. Animals do not normally eat the plant because of the bristly hairs on the leaves. However, swine given the plant as green fodder showed signs of nitrate poisoning. Long-term use of the plant as food could lead to liver dysfunction (Cooper and Huxtable 1984, Huxtable 1989).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Symphytum asperum* Lepech.

Vernacular name(s): prickly comfrey

Scientific family name: *Boraginaceae*

Vernacular family name: borage

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Symphytum asperum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques



des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia  
Manitoba  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

prickly comfrey:

Images: [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
leaves  
roots  
stems

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Notes on Toxic plant chemicals:**

This plant contains pyrrolizidine alkaloids such as echimidine. These alkaloids cause veno-occlusive symptoms in animals. Total alkaloid content (as a percentage of dry weight) for fresh leaves is about 0.01% and for dry leaves, about 0.059%. Many members of the genus contain much higher concentrations of alkaloids in the roots (Huxtable 1989).

### **Toxic plant chemicals:**

echimidine

nitrate

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Swine**

### **General symptoms of poisoning:**

[breathing, labored](#)  
[cyanosis](#)  
[methemoglobinemia](#)

### **Notes on poisoning:**

Prickly comfrey is not normally ingested by animals because of the bristly hairs on the leaves. This plant can accumulate nitrates. In Britain, swine were poisoned when given prickly comfrey as green fodder. Symptoms were typical for nitrate poisoning, including apathy, labored breathing, cyanosis, and methemoglobinemia (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: prickly lettuce](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Prickly lettuce (*Lactuca scariola*) is a naturalized herb found across parts of southern Canada. In the western United States, cattle developed pulmonary emphysema after ingesting the plant. The injury appears to be associated with a deficiency, because the toxicity develops after the cattle have fed on dry rangelands. When they are subsequently moved to lush, autumn pasture, some cattle feed ravenously on the prickly lettuce regrowth and, in a few days, the symptoms may develop (Beath et al. 1953).

### References:

Beath, O. A., Gilbert, C. S., Eppson, H. F., Rosenfeld, I. 1953. Poisonous plants and livestock poisoning. Wyo. Agric. Exp. Stn. Bull., 324. 94 pp.

### Nomenclature:

Scientific Name: *Lactuca scariola* L.

Vernacular name(s): prickly lettuce

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lactuca scariola](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci.

(Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

prickly lettuce:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Mature plants and dried plant material are reported to be harmless. Regrowth of the plants in autumn has caused poisoning in field cases in the western rangelands of the United States (Beath et al. 1953).

### **Toxic parts:**

young shoots

### **References:**

Beath, O. A., Gilbert, C. S., Eppson, H. F., Rosenfeld, I. 1953. Poisonous plants and livestock poisoning. Wyo. Agric. Exp. Stn. Bull., 324. 94 pp.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Beath, O. A., Gilbert, C. S., Eppson, H. F., Rosenfeld, I. 1953.

Poisonous plants and livestock poisoning. Wyo. Agric. Exp. Stn. Bull., 324. 94 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[breathing, labored](#)  
[emphysema](#)  
[weakness](#)

#### **Notes on poisoning:**

Symptoms include pulmonary emphysema, characterized by weakness and difficult breathing. Postmortem examination shows the lung tissue inflamed, with almost complete destruction of the air-cell tissue (Beath et al. 1953).

#### **References:**

Beath, O. A., Gilbert, C. S., Eppson, H. F., Rosenfeld, I. 1953. Poisonous plants and livestock poisoning. Wyo. Agric. Exp. Stn. Bull., 324. 94 pp.

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[Important Notices](#)



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|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: primula](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



### **General poisoning notes:**

Primula (*Primula obconica*) is an ornamental herb that may be grown indoors or outdoors. Sensitized humans develop dermatitis from exposure to the allergen contained in hairs on leaves and other plant parts. Pollen also can cause dermatitis. Some other species of the genus *Primula* can cause dermatitis as well (Mitchell and Rook 1979).

### **References:**

Fernandez De Corr,s, L., Leanizbarrutia, I., Munoz, D., Bernaola, G., Fernandez, E. 1987. Contact dermatitis from a neighbour's primula. *Contact Dermatitis*, 16: 234-235.

Mitchell, J. C., Rook, A. 1979. *Botanical dermatology*. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

Spoerke, D. G., Smolinske, S. C. 1990. *Toxicity of houseplants*. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Nomenclature:**

Scientific Name: *Primula obconica* Hance.

Vernacular name(s): primula

Scientific family name: *Primulaceae*

Vernacular family name: primrose

### **References:**

Agriculture Quebec. 1975. *Noms des maladies des plantes du Canada/ Names of plant diseases in Canada*. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. *Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada*. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. *Hortus third*. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

primula:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Minute glandular hairs accumulate the allergen, which is exuded in tiny drops. The hairs are most common on the leaves but are also found on other plant parts. The pollen grains can also cause dermatitis (Mitchell and Rook 1979).

### **Toxic parts:**

flowers  
hairs  
leaves

### **References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### **Notes on Toxic plant chemicals:**

Primin, a quinone, is the allergen in primula. This chemical is found in minute (0.05-0.3 mm long) glandular hairs. The concentrated allergen accumulates as irregular resinous drops on the hairs. Highly sensitive people may react to 20 micro gm of the allergen. The allergen content of primula is highest between April and August, when grown outdoors (Mitchell and Rook 1979).

### **Toxic plant chemicals:**



primin

### **References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

#### **General symptoms of poisoning:**

[blistering](#)

[conjunctivitis](#)

[eczema](#)

[erythema](#)

[fever](#)

### **References:**

Fernandez De Corr,s, L., Leanizbarrutia, I., Munoz, D., Bernaola, G., Fernandez, E. 1987. Contact dermatitis from a neighbour's primula. Contact Dermatitis, 16: 234-235.

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[Important Notices](#)



|   |                   |              |                                 |                    |
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| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: prostrate pigweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Prostrate pigweed (*Amaranthus blitoides*) is a naturalized herb found across parts of southern Canada. This plant accumulates nitrogen and can cause nitrate poisoning because it can accumulate amounts sufficient to kill cattle (Fuller and McClintock 1986).

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### Nomenclature:

Scientific Name: *Amaranthus blitoides* S. Wats.

Vernacular name(s): prostrate pigweed

Scientific family name: *Amaranthaceae*

Vernacular family name: amaranth

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Amaranthus blitoides](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

prostrate pigweed:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Toxic plant chemicals:**

nitrate

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

### **Swine**

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|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: purple cockle](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Purple cockle (*Agrostemma githago*) is a naturalized herb found across southern Canada. The seeds are contaminants of wheat seeds and they are considered to be poisonous to poultry, cattle, and humans. Human poisoning is rare. Feeding trials have been conducted with ground seeds, which are unappetizing to poultry (Quigley and Waite 1931).

### References:

Hardin, J. W., Arena, J. M. 1969. Human poisoning from native and cultivated plants. Duke University Press, Durham, N.C., USA. 167 pp.

Heuser, G. F., Shumacher, A. E. 1942. The feeding of corn cockle to chickens. Poultry Sci., 21:86-93.

Quigley, G. D., Waite, R. H. 1931. Miscellaneous feeding trials with poultry. Univ. MD. Agric. Exp. Stn. Bull., 325: 343-354.

### Nomenclature:

Scientific Name: *Agrostemma githago* L.

Vernacular name(s): purple cockle

Scientific family name: *Caryophyllaceae*

Vernacular family name: pink

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Agrostemma githago](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

purple cockle:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

seeds

### **References:**

Heuser, G. F., Shumacher, A. E. 1942. The feeding of corn cockle to chickens. Poult. Sci., 21:86-93.

Quigley, G. D., Waite, R. H. 1931. Miscellaneous feeding trials with poultry. Univ. MD. Agric. Exp. Stn. Bull., 325: 343-354.

### **Notes on Toxic plant chemicals:**

Purple cockle (*Agrostemma githago*) contains the saponin githagin, which is toxic mainly to poultry. The toxin is destroyed in seeds at

50 C. The following quantities have been found to be toxic in experiments with animals:

calf 0.0025% of body weight  
poultry 0.0025%  
pig 0.0010%  
dog 0.0009%

Most feeding experiments have been conducted on chickens (Quigley and Waite 1931; Heuser and Schumacher 1942).

**Toxic plant chemicals:**

githagin

**References:**

Heuser, G. F., Shumacher, A. E. 1942. The feeding of corn cockle to chickens. *Poult. Sci.*, 21:86-93.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Humans**

**General symptoms of poisoning:**

[breathing, shallow](#)  
[diarrhea](#)  
[dizziness](#)  
[stomach cramps](#)  
[vomiting](#)  
[weakness](#)

**Notes on poisoning:**

Purple cockle (*Agrostemma githago*) seeds can contaminate wheat because the seeds are difficult to screen. Highly contaminated wheat is unsalable. The seeds are a danger if present in home-ground wheat, corn, or oats (Hardin and Arena 1969).

**References:**

Hardin, J. W., Arena, J. M. 1969. Human poisoning from native and cultivated plants. Duke University Press, Durham, N.C., USA. 167 pp.

**Poultry**

**General symptoms of poisoning:**

[appetite, loss of](#)  
[breathing, labored](#)  
[death](#)

[diarrhea](#)  
[gait, staggering](#)  
[heart, cheesy material](#)  
[mouth, cheesy material](#)

**References:**

Heuser, G. F., Shumacher, A. E. 1942. The feeding of corn cockle to chickens. *Poult. Sci.*, 21:86-93.

Quigley, G. D., Waite, R. H. 1931. Miscellaneous feeding trials with poultry. *Univ. MD. Agric. Exp. Stn. Bull.*, 325: 343-354.

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Date modified: 2009-09-01 [Important Notices](#)





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| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: purple locoweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Purple locoweed (*Oxytropis lambertii*) is found in the southern parts of Manitoba and Saskatchewan. This species can cause locoism, a chronic disease that results after long-term grazing. The plant contains swainsonine, an alkaloid, which results in cellular dysfunction through a long biological process. Affected animals show nervous system impairment, with symptoms such as dullness and excitement, as well as immune system impairment. Abortion and congenital birth deformities may occur. Animals affected include cattle, horses, and sheep. Animals may become habituated to locoweed. Death can result (James 1983, Cheeke and Schull 1985).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

James, L. F. 1983. Neurotoxins and other toxins from *Astragalus* and related genera. Pages 445-462 in Keeler, R. F., Tu, A. T., eds. Handbook of natural toxins. Vol. 1. Plant and Fungal toxins. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

### Nomenclature:

Scientific Name: *Oxytropis lambertii* Pursh

Vernacular name(s): purple locoweed

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Oxytropis lambertii](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

purple locoweed:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The blooms of locoweeds contain more swainsonine than the leaves. The immature pods contain less swainsonine than the blooms, but this amount increases with the maturity of the seeds (Ralphs et al. 1986).

### **Toxic parts:**

flowers  
leaves  
mature fruit

### **References:**

James, L. F. 1983. Neurotoxins and other toxins from *Astragalus* and related genera. Pages 445-462 in Keeler, R. F., Tu, A. T., eds. Handbook of natural toxins. Vol. 1. Plant and Fungal toxins. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

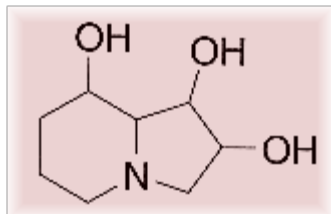
Ralphs, M. H., James, L. F., Pfister, J. A. 1986. Utilization of white locoweed (*Oxytropis sericea* Nutt.) by range cattle. *J. Range Manage.*, 39: 344-347.

### Notes on Toxic plant chemicals:

Swainsonine, an indolizidine alkaloid, inhibits alpha-mannosidase in the animal's body, which results in eventual disruption of cellular function when inhibited (Cheeke and Schull 1985).

### Toxic plant chemicals:

swainsonine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

James, L. F. 1983. Neurotoxins and other toxins from *Astragalus* and related genera. Pages 445-462 in Keeler, R. F., Tu, A. T., eds. *Handbook of natural toxins. Vol. 1. Plant and Fungal toxins.* Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

### General symptoms of poisoning:

[abortion](#)

[agitation](#)

[carpal joint, flexure](#)

[death](#)

[depression](#)

### References:

Cheeke, P. R., Shull, L. R. 1985. *Natural toxicants in feeds and poisonous plants.* AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

James, L. F. 1983. Neurotoxins and other toxins from *Astragalus* and related genera. Pages 445-462 in Keeler, R. F., Tu, A. T., eds. *Handbook of natural toxins. Vol. 1. Plant and Fungal toxins.* Marcel

Dekker, Inc., New York, N.Y., USA. 934 pp.

## Horses

### General symptoms of poisoning:

[agitation](#)

[death](#)

[depression](#)

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

## Sheep

### General symptoms of poisoning:

[abortion](#)

[agitation](#)

[carpal joint, flexure](#)

[death](#)

[incoordination](#)

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

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[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
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| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: radish](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Radish (*Raphanus sativus*) is a cultivated plant with the potential for livestock poisoning from SMCO or glucosinolate toxins contained in the leaves and seeds. However, no occurrence was reported in the literature. See general notes under [Brassica oleracea](#) on the effects of these chemicals.

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### Nomenclature:

Scientific Name: *Raphanus sativus* L.

Vernacular name(s): radish

Scientific family name: *Cruciferae*

Vernacular family name: mustard

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Raphanus sativus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

radish:

Images: [images.google.com](http://images.google.com)

### Toxic parts:

leaves  
seeds

### References:

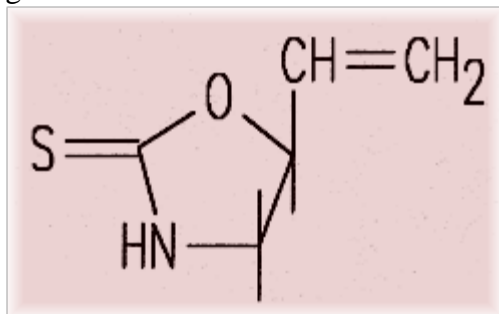
Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### Notes on Toxic plant chemicals:

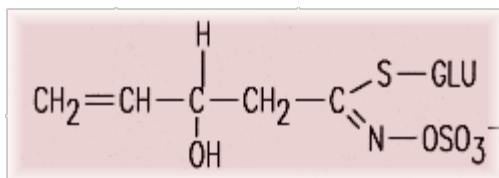
See the general notes under [Brassica oleracea](#) for further discussion of these chemicals.

### Toxic plant chemicals:

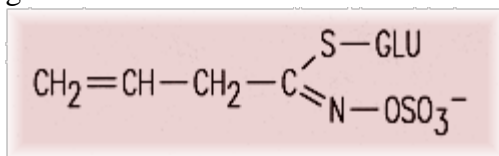
glucosinolates



glucosinolates



glucosinolates



S-methyl-L-cysteine sulfoxide (SMCO)

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Benevenga, N. J., Case, G. L., Steele, R. D. 1989. Occurrence and metabolism of s-methyl-l-cysteine and s-methyl-l-cysteine sulfoxide in plants and their toxicity and metabolism in animals. Pages 203-228 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Fenwick, G. R., Heaney, R. K., Mawson, R. 1989. Glucosinolates. Pages 1-41 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: rapeseed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Rapeseed (*Brassica napus*) meal is used as an additive to livestock feed, but toxicity occurs from glucosinolates and erucic acid, which form in the seeds. Canadian breeders have developed new cultivars called canola, which are low in these compounds (Cheeke and Schull 1985). See discussions under [Brassica oleracea](#) for more information on poisoning by *Brassica* species.

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Brassica napus* L.

Vernacular name(s): rapeseed

Scientific family name: *Cruciferae*

Vernacular family name: mustard

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Brassica napus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.



Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

rapeseed:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Rapeseed meal is used as an additive to feeds for livestock. The recent development of canola cultivars allows a much higher amount of rapeseed meal to be added to diets without toxic affects (Cheeke and Schull 1985).

### **Toxic parts:**

leaves  
seeds

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn.,

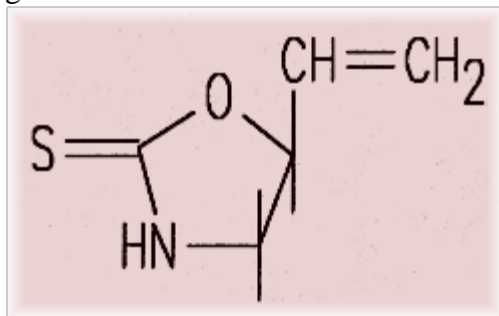
USA. 492 pp.

**Notes on Toxic plant chemicals:**

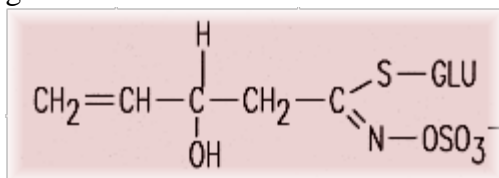
See the notes under *Brassica oleracea* for a discussion on these chemicals, which are common to the genus *Brassica*.

**Toxic plant chemicals:**

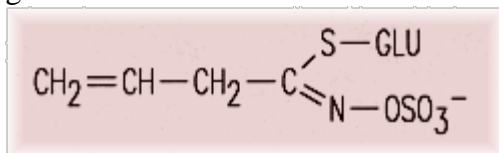
glucosinolates



glucosinolates



glucosinolates



S-methyl-L-cysteine sulfoxide (SMCO)

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**Poultry**

**General symptoms of poisoning:**

[liver, congestion of](#)  
[thyroid, enlarged](#)  
[weight gain, reduced](#)

**Notes on poisoning:**

Poultry exhibit growth depression and enlarged thyroid glands from ingesting too much rapeseed meal. Perosis, lowered egg production, and off-flavors in eggs also occur (Cheeke and Schull 1985).

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

**Swine**

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Date modified: 2009-09-01

[Important Notices](#)



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## [Notes on poisoning: red chokecherry](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Chokecherry (*Prunus virginiana*) is a native shrub or small tree found through most of Canada. Children have been poisoned and have died after ingesting large quantities of berries, which contain the seeds. All types of livestock can be poisoned by ingesting the plant material. Cattle and sheep have been poisoned by red chokecherry (Pardee 1847, Kingsbury 1964). Related species, including peach (*Prunus persica*) and apricot (*Prunus armeniaca*), have pits with enough toxin to cause poisoning and death in humans and animals.

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Mulligan, G. A., Munro, D. B. 1981. The biology of Canadian weeds. 51. *Prunus virginiana* L. and *P. serotina* Ehrh. Can. J. Plant Sci., 61: 977-992.

Pardee, G. K. 1847. Case of poisoning by the wild cherry. West. Lancet, 6: 289-291.

Scimeca, J. M., Oehme, F. W. 1985. Postmortem guide to common poisonous plants of livestock. Vet. Hum. Toxicol., 27: 189-199.

### Nomenclature:

Scientific Name: *Prunus virginiana* L.

Vernacular name(s): red chokecherry

Scientific family name: *Rosaceae*

Vernacular family name: rose

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Prunus virginiana](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que.,

Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

red chokecherry:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

At all stages of growth, leaves of red chokecherry contained quantities of prunasin that were well above the minimum 1.4% level required for acute poisoning. Twigs also contained levels of prunasin at or above the level required to cause acute poisoning. Twigs developed more toxin during dry years. The prunasin level of

buds and flowers was above the minimum level as well (Majak et al. 1981).

**Toxic parts:**

leaves  
seeds  
twigs

**References:**

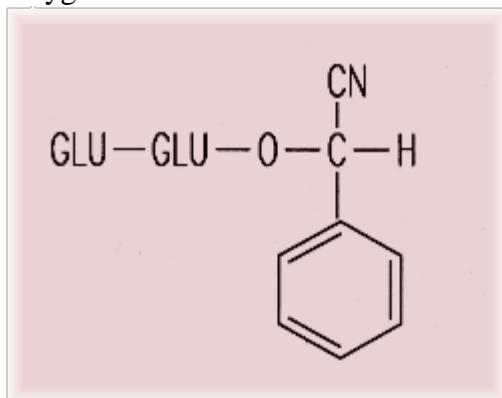
Majak, W., McDiarmid, R. E., Hall, J. W. 1981. The cyanide potential of Saskatoon serviceberry (*Amelanchier alnifolia*) and chokecherry (*Prunus virginiana*). *Can. J. Anim. Sci.*, 61: 681-686.

**Notes on Toxic plant chemicals:**

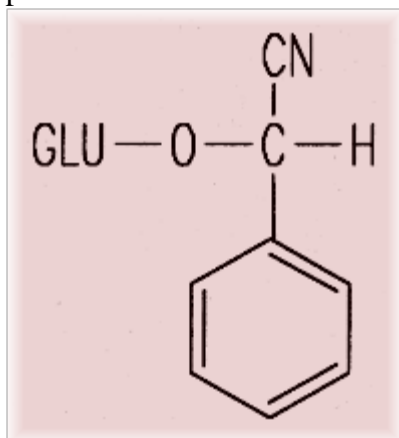
Two cyanogenetic glycosides, amygdalin and prunasin, are found in red chokecherry plant material. Levels of HCN at 143-243 mg have been found in 100 g of leaves. The higher amounts apply to wilted leaves. A lethal dose in cattle occurs after ingesting fresh leaves equivalent to about 0.25% of body weight (Kingsbury 1964, Cheek and Schull 1985).

**Toxic plant chemicals:**

amygdalin



prunasin



Chemical diagram(s) are courtesy of Ruth McDiarmid,

Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[agitation](#)

[coma](#)

[convulsions](#)

[death by asphyxiation](#)

[dyspnea](#)

[gait, staggering](#)

#### **Notes on poisoning:**

Experimental work on cattle showed that fresh leaves consumed at a rate equivalent to 0.25% of an animal's body weight constitute a lethal dose. Symptoms listed above are applicable to all types of animals. Postmortem findings usually show bright red blood and congested internal organs (Kingsbury 1964, Scimeca and Oehme 1985).

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Scimeca, J. M., Oehme, F. W. 1985. Postmortem guide to common poisonous plants of livestock. Vet. Hum. Toxicol., 27: 189-199.

### **Humans**

#### **General symptoms of poisoning:**

[abdominal pains](#)

[babinski reflex](#)

[coma](#)

[convulsions](#)

[cyanosis](#)

[death by asphyxiation](#)

[vomiting](#)

**Notes on poisoning:**

Ingesting large quantities of red chokecherry fruits, without removing the seeds, has caused illness and death in children. The onset of symptoms is usually sudden and includes abdominal pain, vomiting, convulsions, inability to speak, labored breathing, coma, and death from asphyxiation. The blood is initially bright red because cell respiration is interrupted (Pardee 1847, Kingsbury 1964).

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Pardee, G. K. 1847. Case of poisoning by the wild cherry. West. Lancet, 6: 289-291.

**Sheep**

**General symptoms of poisoning:**

[coma](#)

[convulsions](#)

[death by asphyxiation](#)

[dyspnea](#)

[paralysis](#)

**Notes on poisoning:**

See additional information under cattle.

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: red clover](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Red clover (*Trifolium pratense*) is a common clover that is used in both cultivation for forage and food for animals. It is also widely naturalized across Canada. Ingesting of this plant can cause bloat in animals. This plant is also involved in a condition called **congenital joint laxity and dwarfism**, which occurs sporadically across the northern part of British Columbia, Alberta, and Ontario. This disorder results in teratogenic problems in beef calves when their dams have overwintered exclusively on clover and grass silage. Red clover can also develop phytoestrogens, which affect fertility in livestock (Cheeke and Schull 1985, Ribble et al. 1989).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Hall, J. W., Majak, W. 1989. Plant and animal factors in legume bloat. Pages 93-106 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

Ribble, C. S., Janzen, E. D., Proulx, J. G. 1989. Congenital joint laxity and dwarfism: a feed-associated congenital anomaly of beef calves in Canada. Can. Vet. J., 30: 331-338.

### Nomenclature:

Scientific Name: *Trifolium pratense* L.

Vernacular name(s): red clover

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Trifolium pratense](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du

Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

red clover:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts

### **References:**

Ribble, C. S., Janzen, E. D., Proulx, J. G. 1989. Congenital joint laxity and dwarfism: a feed-associated congenital anomaly of beef calves in Canada. *Can. Vet. J.*, 30: 331-338.

### **Notes on Toxic plant chemicals:**

Isoflavones, which are glycosides, can occur in red clover. These chemicals are plant estrogens that can cause infertility problems in livestock (Cheeke and Schull 1985).

### **Toxic plant chemicals:**

isoflavones

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

### **General symptoms of poisoning:**

[bloat](#)

[brachygnatha, superior](#)

[dwarfism](#)

[joint laxity](#)

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Hall, J. W., Majak, W. 1989. Plant and animal factors in legume bloat. Pages 93-106 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

Ribble, C. S., Janzen, E. D., Proulx, J. G. 1989. Congenital joint laxity and dwarfism: a feed-associated congenital anomaly of beef calves in Canada. *Can. Vet. J.*, 30: 331-338.

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## [Notes on poisoning: red maple](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



### **General poisoning notes:**

Red maple (*Acer rubrum*) is a native tree found in eastern Canada. Leaves of this plant have poisoned horses in the New England States and Georgia. Divers et al. (1982) noted that three of four horses died in one case. Experimental symptoms of hemolytic anemia indistinguishable from the field case were induced in a pony. This problem should be suspected in horses in which acute hemolytic anemia occurs after they ingest red maple leaves.

Horses are poisoned sporadically in the northeastern United States after they ingest red maple leaves. Signs of toxicity are similar to those seen with the *Brassica* anemia factor after animals ingest plants of the genus *Brassica* (such as canola, kale, cabbage). Tennant et al. (1981) noted 33 cases of hemolytic anemia in horses in the New England States in the late 1970s. These cases were attributed to red maple leaves.

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Divers, T. J., George, L. W., George, J. W. 1982. Hemolytic anemia in horses after the ingestion of red maple leaves. *Toxicology*, 180: 300-302.

George, L. W., Divers, T. J., Mahaffey, E. A., Suarez, M. J. 1982. Heinz body anemia and methemoglobinemia in ponies given red maple (*Acer rubrum* L.) leaves. *Vet. Pathol.*, 19: 521-533.

Long, P. H., Payne, J. W. 1984. Red maple-associated pulmonary thrombosis in a horse. *J. Am. Vet. Med. Assoc.*, 184: 977-978.

Plumlee, K. H. 1991. Red maple toxicity in a horse. *Vet. Hum. Toxicol.*, 33: 66-67.

Tennant, B., Dill, S. G., Glickman, L. T., Mirro, E. J., King, J. M., Polak, D. M., Smith, M. C., Kradel, D. C. 1981. Acute hemolytic anemia, methemoglobinemia, and Heinz body formation associated with ingestion of red maple leaves by horses. *J. Am. Vet. Med. Assoc.*, 179: 143-150.

**Nomenclature:**

Scientific Name: *Acer rubrum* L.

Vernacular name(s): red maple

Scientific family name: *Aceraceae*

Vernacular family name: maple

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Acer rubrum](#)

**References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

**Geographic Information**

New Brunswick

Newfoundland

Nova Scotia

Ontario

Prince Edward Island

Quebec

**References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

**Image or illustration**

red maple:

**Images:** [images.google.com](http://images.google.com)

**Notes on Poisonous plant parts:**

The wilted leaves of red maple (*Acer rubrum*) have caused poisoning and death in horses. This toxicity is most prevalent from June through October. Cases become symptomatic 3-4 days after ingesting the leaves (Divers et al. 1982).

Wilted leaves administered to a pony at the rate of 3.0 g/kg of body weight caused illness and death within 1-5 days. Freshly harvested leaves did not cause any symptoms. Dried leaves remained toxic for 30 days (George et al. 1982).

**Toxic parts:**

leaves

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Divers, T. J., George, L. W., George, J. W. 1982. Hemolytic anemia in horses after the ingestion of red maple leaves. *Toxicology*, 180: 300-302.

George, L. W., Divers, T. J., Mahaffey, E. A., Suarez, M. J. 1982. Heinz body anemia and methemoglobinemia in ponies given red maple (*Acer rubrum* L.) leaves. *Vet. Pathol.*, 19: 521-533.

Long, P. H., Payne, J. W. 1984. Red maple-associated pulmonary thrombosis in a horse. *J. Am. Vet. Med. Assoc.*, 184: 977-978.

Plumlee, K. H. 1991. Red maple toxicity in a horse. *Vet. Hum. Toxicol.*, 33: 66-67.

Tennant, B., Dill, S. G., Glickman, L. T., Mirro, E. J., King, J. M., Polak, D. M., Smith, M. C., Kradel, D. C. 1981. Acute hemolytic anemia, methemoglobinemia, and Heinz body formation associated with ingestion of red maple leaves by horses. *J. Am. Vet. Med. Assoc.*, 179: 143-150.

**Notes on Toxic plant chemicals:**

The chemical that causes hemolytic anemia poisoning in horses is not yet known for red maple (*Acer rubrum*). The chemical probably works as an oxidant. In Georgia, ponies poisoned by red maple leaves died rapidly when fed dried leaves after mid September, whereas ponies fed leaves collected earlier in the summer had a more prolonged illness. This finding suggests that the toxin increases in quantity during autumn (George et al. 1982).

**Toxic plant chemicals:**

unknown chemical

### References:

George, L. W., Divers, T. J., Mahaffey, E. A., Suarez, M. J. 1982. Heinz body anemia and methemoglobinemia in ponies given red maple (*Acer rubrum* L.) leaves. *Vet. Pathol.*, 19: 521-533.

Tennant, B., Dill, S. G., Glickman, L. T., Mirro, E. J., King, J. M., Polak, D. M., Smith, M. C., Kradel, D. C. 1981. Acute hemolytic anemia, methemoglobinemia, and Heinz body formation associated with ingestion of red maple leaves by horses. *J. Am. Vet. Med. Assoc.*, 179: 143-150.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Horses

#### General symptoms of poisoning:

[anorexia](#)

[blood brownish](#)

[brain, vacuolation of](#)

[breathing, rapid](#)

[coma](#)

[cyanosis](#)

[death](#)

[dehydration](#)

[depression](#)

[heart rate, elevated](#)

[Heinz bodies](#)

[hemoglobinuria](#)

[icterus](#)

[kidney, edema of](#)

[lungs, congestion of](#)

[lungs, thrombosis of](#)

[mucous membrane, brown](#)

[nephrosis, severe](#)

[urine, brownish](#)

[weakness](#)

### References:

Divers, T. J., George, L. W., George, J. W. 1982. Hemolytic anemia in horses after the ingestion of red maple leaves. *Toxicology*, 180: 300-302.

George, L. W., Divers, T. J., Mahaffey, E. A., Suarez, M. J. 1982. Heinz body anemia and methemoglobinemia in ponies given red maple (*Acer rubrum* L.) leaves. *Vet. Pathol.*, 19: 521-533.

Long, P. H., Payne, J. W. 1984. Red maple-associated pulmonary thrombosis in a horse. J. Am. Vet. Med. Assoc., 184: 977-978.

Plumlee, K. H. 1991. Red maple toxicity in a horse. Vet. Hum. Toxicol., 33: 66-67.

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## [Notes on poisoning: red oak](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Red oak (*Quercus rubra*) is a native tree found in eastern Canada. This plant contains toxic tannins that have caused poisoning and death in cattle and horses. Sheep may have also been poisoned by this oak. Poisoning can lead to depression, anorexia, loss of condition, and kidney damage. Kidney failure usually results in death (Duncan 1961, Cockerill and Beasley 1979).

### References:

- Cockrill, J. M., Beasley, J. N. 1979. Renal damage to cattle during acorn poisoning. *Vet. Med. Small Anim. Clin.*, 74: 82, 84-85.
- Duncan, C. S. 1961. Oak leaf poisoning in two horses. *Cornell Vet.*, 51: 159-162.

### Nomenclature:

Scientific Name: *Quercus rubra* L.

Vernacular name(s): red oak

Scientific family name: *Fagaceae*

Vernacular family name: beech

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Quercus rubra](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.
- Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. *Agric. Can. Publ.*, Ottawa, Ont., Canada. 132 pp.
- Bailey, L. H., Bailey, E. Z. 1976. *Hortus third*. Revised. MacMillan, New York, N.Y., USA. 1290 pp.
- Scoggan, H. J. 1978, 1979. The flora of Canada. *Nat. Mus. Nat. Sci.*

(Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

red oak:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The leaves and acorns are toxic. The immature acorns contain more toxin than the mature acorns (Cockrill and Beasley 1979).

### **Toxic parts:**

acorns  
immature fruit  
leaves

### **References:**

Cockrill, J. M., Beasley, J. N. 1979. Renal damage to cattle during acorn poisoning. Vet. Med. Small Anim. Clin., 74: 82, 84-85.

### **Notes on Toxic plant chemicals:**

The toxic agents are polyhydroxyphenolic compounds (tannins) including gallic acid, pyrogallol, and tannic acid. The concentration of these compounds is higher in immature, green acorns than in mature ones. The following quantities of phenolics were found in acorns (Basden and Dalvi 1987):

|  |  |
|--|--|
|  |  |
|--|--|

| Oak species                  | Total phenolics (% of total weight) |
|------------------------------|-------------------------------------|
| Quercus alba (white oak)     | 1.09 (0.41-2.54)                    |
| Quercus rubra (red oak)      | 3.72                                |
| Quercus velutina (black oak) | 4.51 (3.29-6.13)                    |

Black oak and red oak contain a greater total average of phenolics in the acorns does than white oak.

### Toxic plant chemicals:

gallic acid  
pyrogallol  
tannic acid

### References:

Basden, K. W., Dalvi, R. R. 1987. Determination of total phenolics in acorns from different species of oak trees in conjunction with acorn poisoning in cattle. *Vet. Hum. Toxicol.*, 29: 305-306.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

#### General symptoms of poisoning:

[anorexia](#)  
[constipation](#)  
[depression](#)  
[kidney failure](#)  
[teeth grinding](#)

#### Notes on poisoning:

Cattle that ingest a small number of acorns may show some loss of condition. However, they often develop a preference for eating the acorns. Toxic amounts cause depression, anorexia, constipation, the passing of small fecal balls covered in mucous and blood, teeth grinding, and submandibular edema. Death is usually caused by kidney failure. Postmortem findings reveal a large number of acorns in the rumen, gastroenteritis in the caudal portion of the digestive tract, and small, shrunken kidneys with diminished reserve capacity. If renal stress occurs, the reserve function of the kidney may be exceeded. Perirenal edema and hemorrhagic enteritis were the prominent lesions. Multifocal necrosis of the proximal convoluted

tubules of the kidney is characteristic (Sandusky et al. 1977, Cockrill and Beasley 1979).

### **References:**

Cockrill, J. M., Beasley, J. N. 1979. Renal damage to cattle during acorn poisoning. Vet. Med. Small Anim. Clin., 74: 82, 84-85.

### **Horses**

#### **General symptoms of poisoning:**

[abdominal pains](#)

[anorexia](#)

[colic](#)

[constipation](#)

[depression](#)

[diarrhea](#)

[hematuria](#)

[icterus](#)

#### **Notes on poisoning:**

Horses that ingested leaves of red oak developed symptoms of depression, anorexia, abdominal pain, constipation, slight icterus, hematuria, edema, and weakness. The symptoms occurred 6-9 days after ingestion. Blood transfusions were thought to speed recovery (Duncan 1961).

### **References:**

Duncan, C. S. 1961. Oak leaf poisoning in two horses. Cornell Vet., 51: 159-162.

### **Sheep**

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## [Notes on poisoning: redroot pigweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Redroot pigweed (*Amaranthus retroflexus*) is a naturalized herb that is found across much of Canada. This plant can cause a variety of toxic problems, including perirenal edema in pigs. However, the nature of the toxic compound is not known. This plant can also accumulate oxalates to as much as 30% of dry weight. Redroot pigweed is capable of accumulating toxic concentrations of nitrates (Osweiler et al. 1985).

### References:

Crawford, R. F., Kennedy, W. K., Davison, K. L. 1966. Factors influencing the toxicity of forages that contain nitrate when fed to cattle. *Cornell Vet.*, 56: 3-17.

Duckworth, R. H. 1975. Poisoning of cattle by *Amaranthus*. *N. Z. Vet. J.*, 23: 154-155.

Hibbs, C. M., Stencel, E. L., Hill, R. M. 1978. Nitrate toxicosis in cattle. *Vet. Hum. Toxicol.*, 20: 1-2.

Osweiler, G. D., Buck, W. B., Bicknell, E. J. 1969. Production of perirenal edema in swine with *Amaranthus retroflexus*. *Am. J. Vet. Res.*, 30: 557-566.

Osweiler, G. D., Carson, T. L., Buck, W. B., Van Gelder, G. A. 1985. *Clinical and diagnostic veterinary toxicology*. Third edition. Kendall/Hunt Publishing Co., Dubuque, Iowa, USA. 494 pp.

Scimeca, J. M., Oehme, F. W. 1985. Postmortem guide to common poisonous plants of livestock. *Vet. Hum. Toxicol.*, 27: 189-199.

Stuart, B. P., Nicholson, S. S., Smith, J. B. 1975. Perirenal edema and toxic nephrosis in cattle, associated with ingestion of pigweed. *J. Am. Vet. Med. Assoc.*, 167: 949-950.

### Nomenclature:

Scientific Name: *Amaranthus retroflexus* L.

Vernacular name(s): redroot pigweed

Scientific family name: *Amaranthaceae*

Vernacular family name: amaranth

Go to ITIS<sup>\*ca</sup> for more taxonomic information on: [Amaranthus retroflexus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

redroot pigweed:

Images: [images.google.com](http://images.google.com)

**Toxic parts:**

leaves  
stems

**References:**

Osweiler, G. D., Buck, W. B., Bicknell, E. J. 1969. Production of perirenal edema in swine with *Amaranthus retroflexus*. Am. J. Vet. Res., 30: 557-566.

Stuart, B. P., Nicholson, S. S., Smith, J. B. 1975. Perirenal edema and toxic nephrosis in cattle, associated with ingestion of pigweed. J. Am. Vet. Med. Assoc., 167: 949-950.

**Notes on Toxic plant chemicals:**

Nitrates have the following LD-50 values (Crawford et al. 1966):

LD-50 1.0 g/kg body weight in cattle  
LD-50 0.5 g/kg body weight in other ruminants.

Acute poisoning occurs when forage nitrates exceed 1.0% nitrate (dry weight) or 1500 ppm in water (Osweiler et al. 1985). All *Amaranthus* spp. mentioned in this information system can accumulate toxic quantities of nitrates.

**Toxic plant chemicals:**

nitrate

**References:**

Crawford, R. F., Kennedy, W. K., Davison, K. L. 1966. Factors influencing the toxicity of forages that contain nitrate when fed to cattle. Cornell Vet., 56: 3-17.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[abortion](#)  
[bloat](#)  
[blood brownish](#)  
[breathing, rapid](#)  
[death](#)  
[dyspnea](#)  
[kidney, edema of](#)  
[mucous membrane, brown](#)  
[nephrosis, severe](#)

[nervousness](#)  
[recumbency](#)  
[recumbency, ventral](#)  
[regurgitation](#)  
[weakness, posterior](#)

### References:

Crawford, R. F., Kennedy, W. K., Davison, K. L. 1966. Factors influencing the toxicity of forages that contain nitrate when fed to cattle. *Cornell Vet.*, 56: 3-17.

Duckworth, R. H. 1975. Poisoning of cattle by *Amaranthus*. *N. Z. Vet. J.*, 23: 154-155.

Hibbs, C. M., Stencel, E. L., Hill, R. M. 1978. Nitrate toxicosis in cattle. *Vet. Hum. Toxicol.*, 20: 1-2.

Stuart, B. P., Nicholson, S. S., Smith, J. B. 1975. Perirenal edema and toxic nephrosis in cattle, associated with ingestion of pigweed. *J. Am. Vet. Med. Assoc.*, 167: 949-950.

### Swine

#### General symptoms of poisoning:

[ataxia](#)  
[death](#)  
[gait, crouching](#)  
[kidney, edema of](#)  
[nephrosis, severe](#)  
[recumbency, ventral](#)  
[trembling](#)  
[weakness](#)

### References:

Oswelier, G. D., Buck, W. B., Bicknell, E. J. 1969. Production of perirenal edema in swine with *Amaranthus retroflexus*. *Am. J. Vet. Res.*, 30: 557-566.

Scimeca, J. M., Oehme, F. W. 1985. Postmortem guide to common poisonous plants of livestock. *Vet. Hum. Toxicol.*, 27: 189-199.

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## [Notes on poisoning: reed canarygrass](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Reed canarygrass (*Phalaris arundinacea*) is cultivated and has also escaped across much of southern Canada. The plant grows well in poorly drained soils subject to prolonged flooding. The plant has caused animal performance lower than the nutritional composition of the plant suggests. Sheep in New Zealand exhibited Phalaris staggers, which includes distress, convulsions, and death. No cases of this have been reported in North America (Majak et al. 1979, Cheeke and Schull 1985).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Corcuera, L. J. 1989. Indole alkaloids from *Phalaris* and other gramineae. Pages 169-177 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Phalaris arundinacea* L.

Vernacular name(s): reed canarygrass

Scientific family name: *Gramineae*

Vernacular family name: grass

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Phalaris arundinacea](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ.,

Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

reed canarygrass:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Corcuera, L. J. 1989. Indole alkaloids from *Phalaris* and other gramineae. Pages 169-177 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Notes on Toxic plant chemicals:**

Several indole alkaloids are found in reed canarygrass, including hordenine, gramine and 5-methoxy-N-methyltryptamine. Other indole alkaloids were also found. In the interior of British Columbia the concentration of the latter two was found to increase towards the end of the growing season. Differences were also found in various cultivars. Cultural practices and environmental factors such as moisture stress may also increase the amount of alkaloids (Majak et al. 1979, Corcuera 1989).

**Toxic plant chemicals:**

gramine  
hordenine  
5MMethyltryptamine

**References:**

Corcuera, L. J. 1989. Indole alkaloids from *Phalaris* and other gramineae. Pages 169-177 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[convulsions](#)  
[death](#)  
[incoordination](#)  
[muscle spasms](#)  
[weight gain, reduced](#)

**Notes on poisoning:**

Sheep in New Zealand have developed *Phalaris* staggers. Symptoms include incoordination, stiff stilted gait, muscle spasms, convulsions, recumbency, and death. Similar symptoms have not been recorded in North America. Gross lesions are found in the nervous system, including gray to blue discoloration of the brain stem and yellow brown granules in the cytoplasm of nerve cells (Cheeke and Schull 1985).

**References:**

Corcuera, L. J. 1989. Indole alkaloids from *Phalaris* and other gramineae. Pages 169-177 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

**Sheep**

**General symptoms of poisoning:**

[coma](#)

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: rhubarb](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Rhubarb (*Rheum rhaponticum*) is a perennial cultivated plant that persists around old farm sites. The plant contains oxalate crystals, which have been reported to cause poisoning when large quantities of raw or cooked leaves are ingested. Anthraquinones (glycosides) have been implicated more recently in the poisoning. The stalks are widely used as preserves and are also eaten raw, without problems. The toxic content is much lower in the stalks. Humans have been poisoned after ingesting the leaves. Human poisoning was a particular problem in World War I, when the leaves were recommended as a food source in Britain. Some animals, including goats and swine, have also been poisoned by ingesting the leaves. Children should be taught to eat only the rhubarb stalks, preferably under supervision (Robb 1919; Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Robb, H. F. 1919. Death from rhubarb leaves due to oxalic acid poisoning. J. Am. Med. Assoc., 73: 627-628.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Rheum rhaponticum* L.

Vernacular name(s): rhubarb

Scientific family name: *Polygonaceae*

Vernacular family name: knotweed

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rheum rhaponticum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du

Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

rhubarb:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Rhubarb leaves contain the highest amounts of oxalates and perhaps anthraquinones, which may be partly responsible for toxicity. The stalks also contain some low levels of oxalates, but this is not a problem (Cooper and Johnson 1984).

### **Toxic parts:**

leaves

### **References:**

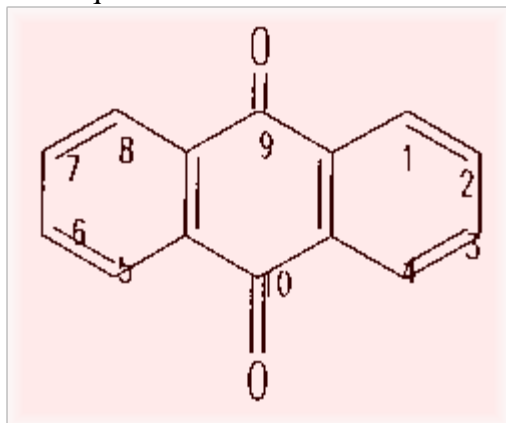
Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Notes on Toxic plant chemicals:

Oxalates are contained in all parts of rhubarb plants, especially in the green leaves. There is some evidence that anthraquinone glycosides are also present and may be partly responsible (Cooper and Johnson 1984).

### Toxic plant chemicals:

anthraquinones



oxalate

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Goats

#### General symptoms of poisoning:

[diarrhea](#)  
[mouth, frothing of](#)  
[vomiting](#)

#### Notes on poisoning:

A goat that ate rhubarb leaves stood with outspread legs, an open mouth, and protruding eyes. The animal was crying and produced sour green vomit and profuse diarrhea (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[abortion](#)

[convulsions](#)

[death](#)

[drowsiness](#)

[muscle twitching](#)

[nausea](#)

[vomiting](#)

### **Notes on poisoning:**

Ingesting rhubarb leaves has caused many fatalities, especially during World War II, when the leaves were recommended as food for a short time. In one fatal case, oxalic acid was ingested at a rate of only 1.3 g/kg, whereas five or six times this amount normally constitutes a fatal dose. More recent evidence indicates that anthraquinone glycosides may be involved. Symptoms include abdominal pain, nausea, vomiting, weakness, and drowsiness. Blood clotting is reduced. A woman in early pregnancy aborted before she died. Two children ingested 20-100 g of leaves and stalks. They vomited and developed jaundice, with some kidney and liver damage. Analysis for oxalate crystals in the urine may help diagnosis (Robb 1919, Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Robb, H. F. 1919. Death from rhubarb leaves due to oxalic acid poisoning. J. Am. Med. Assoc., 73: 627-628.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

## **Swine**

### **General symptoms of poisoning:**

[convulsions](#)

[death](#)

[gait, staggering](#)

[mouth, frothing of](#)

### **Notes on poisoning:**



Swine that ingested rhubarb plants exhibited the following symptoms: foaming at the mouth, staggering, and convulsions, followed by death. Postmortem examination revealed severe inflammation of the stomach and intestines (Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Russian knapweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Russian knapweed (*Centaurea repens*) and yellow star-thistle (*Centaurea solstitialis*) are both naturalized in western Canada. Both plants cause chewing disease in horses. The problem is restricted to horses. Prolonged consumption of the plants is required to produce the symptoms. Russian knapweed is more toxic than yellow star-thistle (Cheeke and Schull 1985, Panter 1990):

- intake of 1.8-2.5 kg/100 kg of body weight per day of Russian knapweed causes toxicity after ingesting 59-71% of its body weight of the plant material in about 30 days;

- intake of 2.3-2.6 kg/100 kg of body weight per day of yellow star-thistle causes toxicity after ingesting 86-200% of its body weight of the plant material in about 54 days.

There are no known treatments for horses once the symptoms appear.

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Cordy, D. R. 1978. *Centaurea* species and equine nigropallidal encephalomalacia. Pages 327-336 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

Panter, K. E. 1990. Toxicity of knapweed in horses. Wash. State Univ. Knapweed, 4(3): 2.

### Nomenclature:

Scientific Name: *Centaurea repens* L.

Vernacular name(s): Russian knapweed

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Centaurea repens](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Alberta  
British Columbia  
Manitoba  
Ontario  
Saskatchewan

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

Russian knapweed:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

Horses must ingest fresh aboveground plant material for prolonged periods to reach a threshold level of unknown toxicity and then the symptoms appear abruptly. Chewing disease in horses has occurred in parts of the western United

States. In California the peak times of disease onset are June-July and October-November (Cordy 1978).

**Toxic parts:**

leaves  
mature fruit  
stems

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Cordy, D. R. 1978. *Centaurea* species and equine nigropallidal encephalomalacia. Pages 327-336 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

Mettler, F. A., Stern, G. M. 1963. Observations on the toxic effects of yellow star thistle. J. Neuropathol. & Exp. Neurol., 22: 164-169.

**Toxic plant chemicals:**

unknown chemical

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Horses**

**General symptoms of poisoning:**

[drowsiness](#)  
[gait, unsteady](#)  
[incoordination](#)  
[restlessness](#)

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Saskatoon \(a serviceberry\)](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Saskatoon, a serviceberry (*Amelanchier alnifolia*), is a shrub native to western Canada. The shrub has an hydrogen cyanide (HCN) potential high enough to kill cattle and mule deer. Mule deer that ingested 1 kg of fresh weight per day were poisoned and died within 24 h of the appearance of clinical signs. Experiments with cattle also showed the poisoning potential (Majak et al. 1978, Majak et al. 1980).

### References:

Majak, W., Bose, R. J., Quinton, D. A. 1978. Prunasin, the cyanogenic glycoside in *Amelanchier alnifolia*. *Phytochemistry* (Oxf.), 17: 803.

Majak, W., Udenberg, T., Clark, L. J., McLean, A. 1980. Toxicity of Saskatoon serviceberry to cattle. *Can. Vet. J.*, 21: 74-76.

### Nomenclature:

Scientific Name: *Amelanchier alnifolia* Nutt.

Vernacular name(s): Saskatoon (a serviceberry)

Scientific family name: *Rosaceae*

Vernacular family name: rose

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Amelanchier alnifolia](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Northwest Territories  
Ontario  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Saskatoon (a serviceberry):

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Saskatoon contains a large quantity of prunasin, which has a hydrogen cyanide (HCN) potential exceeding the level required to cause of poisoning in cattle. HCN occurs in the twigs before the leaves appear and during the bloom period. The level of HCN potential is highest in new-growth twigs, especially during dry years (Majak et al. 1981).

### **Toxic parts:**

flower buds  
leaves  
seeds  
twigs  
young shoots

### **References:**

Majak, W., Bose, R. J., Quinton, D. A. 1978. Prunasin, the cyanogenic glycoside in *Amelanchier alnifolia*. *Phytochemistry* (Oxf.), 17: 803.

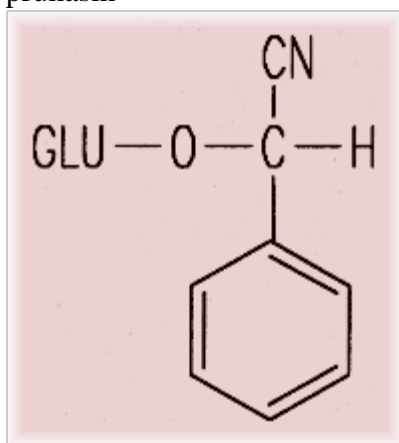
Majak, W., McDiarmid, R. E., Hall, J. W. 1981. The cyanide potential of Saskatoon serviceberry (*Amelanchier alnifolia*) and chokecherry (*Prunus virginiana*). *Can. J. Anim. Sci.*, 61: 681-686.

Majak, W., Quinton, D. A., Broersma, K. 1980. Cyanogenic glycoside levels in Saskatoon serviceberry. *J. Range Manage.*, 33: 197-199.

Majak, W., Udenberg, T., Clark, L. J., McLean, A. 1980. Toxicity of Saskatoon serviceberry to cattle. *Can. Vet. J.*, 21: 74-76.

### Toxic plant chemicals:

prunasin



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Majak, W., Bose, R. J., Quinton, D. A. 1978. Prunasin, the cyanogenic glycoside in *Amelanchier alnifolia*. *Phytochemistry* (Oxf.), 17: 803.

Majak, W., Quinton, D. A., Broersma, K. 1980. Cyanogenic glycoside levels in Saskatoon serviceberry. *J. Range Manage.*, 33: 197-199.

Majak, W., Udenberg, T., Clark, L. J., McLean, A. 1980. Toxicity of Saskatoon serviceberry to cattle. *Can. Vet. J.*, 21: 74-76.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle



### **General symptoms of poisoning:**

[breathing, labored](#)  
[death](#)  
[diarrhea](#)  
[heart rate, elevated](#)  
[recumbency, lateral](#)  
[restlessness](#)  
[shivering](#)  
[weight loss](#)

### **Notes on poisoning:**

Hydrogen cyanide (HCN) poisoning was experimentally induced in cattle. The experiment showed that a single dose of the browse with 1.43% prunasin can be lethal to cattle. Peak cyanide levels occurred in the blood 1-2 h after ingestion. The rumen had a distinct almond smell (Majak et al. 1980).

### **References:**

Majak, W., Udenberg, T., Clark, L. J., McLean, A. 1980. Toxicity of Saskatoon serviceberry to cattle. Can. Vet. J., 21: 74-76.

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| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: scarlet pimpernel](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Scarlet pimpernel (*Anagallis arvensis*) is a naturalized plant found across parts of southern Canada. The plant contains several toxins that have poisoned livestock, and an irritant in the plant hairs can cause allergies in humans. The occurrence of poisoning appears to depend on unknown conditions, which may account for the conflicting literature reports. However, the plant has been implicated in enough cases of poisoning to be treated as a potentially toxic plant (Cooper and Johnson 1984, Fuller and McClintock 1986).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Perkins, K. D., Payne, W. W. 1978. Guide to the poisonous and irritant plants of Florida. Univ. Fla. Agric. Ext. Serv. Circ., 441. 84 pp.

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

### Nomenclature:

Scientific Name: *Anagallis arvensis* L.

Vernacular name(s): scarlet pimpernel

Scientific family name: *Primulaceae*

Vernacular family name: primrose

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Anagallis arvensis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Nova Scotia  
Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

scarlet pimpernel:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Notes on Toxic plant chemicals:**

Scarlet pimpernel contains a triterpenoid saponin in the above-ground plant parts, a glycoside (cyclamine) in the roots, and an acrid volatile oil. The plant hairs contain primin, which can cause human dermatitis (Perkins and Payne 1987, Cooper and Johnson 1984).

**Toxic plant chemicals:**

cyclamin

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Perkins, K. D., Payne, W. W. 1978. Guide to the poisonous and irritant plants of Florida. Univ. Fla. Agric. Ext. Serv. Circ., 441. 84 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[death](#)

**References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Reynard, G. B., Norton, J. B. 1942. Poisonous plants of Maryland in relation to livestock. Univ. MD. Agric. Exp. Stn. Bull., A10. 312 pp.

**Horses**

**Humans**

**General symptoms of poisoning:**

[constipation](#)

[erythema](#)

[gait, staggering](#)

[headache](#)

[kidney, congestion of](#)

[nausea](#)

**References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Perkins, K. D., Payne, W. W. 1978. Guide to the poisonous and irritant plants of Florida. Univ. Fla. Agric. Ext. Serv. Circ., 441. 84 pp.

## **Sheep**

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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: seaside arrow-grass](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### **General poisoning notes:**

Seaside arrow-grass (*Triglochin maritima*) is a native plant found sporadically across Canada in saline, brackish, or fresh marshes and shores. This plant contains cyanogenic glycosides, which can release HCN during mastication by animals. Poisoning occurs primarily with ruminants, including cattle and sheep. The concentration of toxic chemicals increases during times of moisture depletion (Majak et al. 1980, Cooper and Johnson 1984, Poulton 1989).

### **References:**

Beath, O. A., Draize, J. H., Eppson, H. F. 1933. Arrow grass - chemical and physiological considerations. Univ. Wyo. Agric. Exp. Stn. Bull., 193. 36 pp.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Nomenclature:**

Scientific Name: *Triglochin maritima* L.

Vernacular name(s): seaside arrow-grass

Scientific family name: *Juncaginaceae*

Vernacular family name: arrow-grass

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Triglochin maritima](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

seaside arrow-grass:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
flowers  
leaves

### **References:**

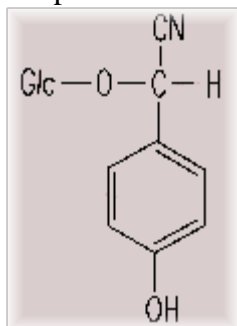
Majak, W., McDiarmid, R. E., Hall, J. W., Van Ryswyk, A. L. 1980. Seasonal variation in the cyanide potential of arrowgrass (*Triglochin maritima*). Can. J. Plant Sci., 60: 1235-1241.

### **Notes on Toxic plant chemicals:**

Two cyanogenic glycosides, triglochinin and taxiphillin, have been found in seaside arrow-grass. The cyanogenic levels in leaves are substantially elevated during periods of severe moisture stress. Newly initiated spikes (flowering stalks) yielded high levels of glycosides. Spikes therefore pose a potential threat if they are selectively grazed. A cyanogenic glycoside content of 50 mg/100 g of green seaside arrow-grass is considered lethal, even if only 0.5% of body weight is ingested (Majak et al. 1980, Cooper and Johnson 1984).

### Toxic plant chemicals:

taxiphillin



triglochinin

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Majak, W., McDiarmid, R. E., Hall, J. W., Van Ryswyk, A. L. 1980. Seasonal variation in the cyanide potential of arrowgrass (*Triglochin maritima*). *Can. J. Plant Sci.*, 60: 1235-1241.

Poulton, J. E. 1983. Cyanogenic compounds in plants and their toxic effects. Pages 117-157 in Keeler, R. F., Tu, A. T., eds. *Handbook of natural toxins. Vol. 1. Plant and Fungal toxins.* Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

### General symptoms of poisoning:

[convulsions](#)  
[death by asphyxiation](#)  
[nervousness](#)  
[recumbency](#)  
[trembling](#)



[vomiting](#)

**Notes on poisoning:**

Cyanide poisoning from seaside arrow-grass is similar to symptoms discussed under sheep.

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Sheep**

**General symptoms of poisoning:**

[convulsions](#)

[death by asphyxiation](#)

[nervousness](#)

[recumbency](#)

[salivation](#)

[trembling](#)

[vomiting](#)

**Notes on poisoning:**

Cyanide poisoning of sheep by seaside arrow-grass includes the following symptoms: nervousness, trembling, erratic breathing, convulsions, recumbency, and death. Postmortem findings reveal bright red blood and the smell of bitter almonds in the stomach. Treatment, if started early enough, can be successful. Intravenous injections of an aqueous solution of sodium thiosulfate have proved to be effective (Cooper and Johnson 1984).

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: sensitive fern](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Sensitive fern (*Onoclea sensibilis*) is a native plant that is found through eastern Canada into Manitoba. The plant, often abundant in low, wet areas, has been implicated in the poisoning and death of horses in field cases. Only one set of experimental poisonings has been undertaken, but the resulting symptoms were similar when horses were fed hay containing sensitive fern (Waller et al. 1944).

### References:

Waller, E. F., Prince, F. S., Hodgson, A. R., Colovos, N. F. 1944. Sensitive-fern poisoning of horses. Univ. N. H. Agric. Stn. Tech. Bull., 83. 7 pp.

### Nomenclature:

Scientific Name: *Onoclea sensibilis* L.

Vernacular name(s): sensitive fern

Scientific family name: *Polypodiaceae*

Vernacular family name: frern

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Onoclea sensibilis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Labrador  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

sensitive fern:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

When the fronds (aboveground leaves) are included in hay, they produce toxic symptoms in horses. The fertile fronds (spore-bearing stalks) are also included in hay. A literature search did not reveal any reports on the toxin, nor was the plant organ that contains the toxin identified.

### **Toxic parts:**

leaves

### **References:**

Waller, E. F., Prince, F. S., Hodgson, A. R., Colovos, N. F. 1944. Sensitive-fern poisoning of horses. Univ. N. H. Agric. Stn. Tech. Bull., 83. 7 pp.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Waller, E. F., Prince, F. S., Hodgson, A. R., Colovos, N. F. 1944. Sensitive-fern poisoning of horses. Univ. N. H. Agric. Stn. Tech. Bull., 83. 7 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Horses**

#### **General symptoms of poisoning:**

[brain, congestion of](#)

[colic](#)

[death](#)

[falling down](#)

[gait, unsteady](#)

[icterus](#)

[incoordination](#)

#### **Notes on poisoning:**

Ingesting hay containing sensitive fern produces the following symptoms: difficulty in eating, falling down, walking as if blind, rubbing against objects, and death. Postmortem examination showed extreme icterus, swollen liver, paralysis of the alimentary tract, and brain edema. Old horses are more affected than younger ones. Horses that are worked and are fed a grain supplement, in addition to hay that includes the fern, are not affected. Recovery may occur if the horses are given good hay and grain before serious nervous symptoms develop (Waller et al. 1944).

#### **References:**

Waller, E. F., Prince, F. S., Hodgson, A. R., Colovos, N. F. 1944. Sensitive-fern poisoning of horses. Univ. N. H. Agric. Stn. Tech. Bull., 83. 7 pp.

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[Important Notices](#)



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## [Notes on poisoning: sheep sorrel](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Sheep sorrel (*Rumex acetosella*) is a naturalized herb found across Canada. The plant can become abundant in poor disturbed soils. Ingesting large quantities of the plants caused poisoning and death in sheep in other countries (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Nomenclature:

Scientific Name: *Rumex acetosella* L.

Vernacular name(s): sheep sorrel

Scientific family name: *Polygonaceae*

Vernacular family name: knotweed

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rumex acetosella](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

sheep sorrel:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Notes on Toxic plant chemicals:**

Oxalate crystals are found in sheep sorrel. Under certain circumstances, nitrates can accumulate in sufficient quantity to cause poisoning. If large enough quantities of oxalates are absorbed by ruminants, they combine with blood calcium, forming calcium oxalate and causing calcium deficiency. The crystal can accumulate in the kidneys and brain causing renal failure and nervous disorders (Cooper and Johnson 1984).

### **Toxic plant chemicals:**

oxalate

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Sheep**

#### **General symptoms of poisoning:**

[coma](#)

[death](#)

[falling down](#)

[gait, staggering](#)

[muscle spasms](#)

[nasal discharge](#)

#### **Notes on poisoning:**

Several sheep in New Zealand were poisoned and died. Symptoms included staggering, nasal discharge, muscular spasms, abnormal breathing, and falling down. In severe cases, coma preceded death. Postmortem findings revealed oxalate crystals and inflammation of the kidneys. Up to 10% of flocks died (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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[Important Notices](#)



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## [Notes on poisoning: sheep-laurel](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Sheep-laurel (*Kalmia angustifolia*) is a native shrub found in eastern Canada in boggy areas. This plant contains a toxin that has poisoned cattle, goats, and sheep as well as humans. Poisoning rarely happens in the wild. Other animals have been poisoned by sheep-laurel, including zebras at a zoo, as well as horses. Meat of chickens that had ingested sheep-laurel may be toxic to other animals. The nectar contains the toxin that results in toxic honey (Marsh 1930, Kingsbury 1964, Verlangieri 1976, Lampe and McCann 1985).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Marsh, C. D. 1930. Mountain-laurel (*Kalmia latifolia*) and sheep laurel (*Kalmia angustifolia*) as stock-poisoning plants. U. S. Dept. Agric. Tech. Bull., 219. 22 pp.

Pritchard, W. R. 1956. Laurel (*Kalmia angustifolia*) poisoning of sheep. N. Am. Vet., 37: 461-462.

Verlangieri, A. J., Gawlikowski, J. N., Shapiro, R. 1976. Acute toxicity of *Kalmia angustifolia*, (sheep laurel) extracts in the rat. Vet. Toxicol., 18: 122-124.

### Nomenclature:

Scientific Name: *Kalmia angustifolia* L.

Vernacular name(s): sheep-laurel

Scientific family name: *Ericaceae*

Vernacular family name: heath

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Kalmia angustifolia](#)



## References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

## Geographic Information

New Brunswick

Newfoundland

Nova Scotia

Ontario

Prince Edward Island

Quebec

## References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## Image or illustration

sheep-laurel:

Images: [images.google.com](http://images.google.com)

## Notes on Poisonous plant parts:

The entire plant is poisonous, including the nectar and honey made from it (Pritchard 1956, Kingsbury 1964).

## Toxic parts:

all parts

flowers  
leaves  
mature fruit  
stems

**References:**

Pritchard, W. R. 1956. Laurel (*Kalmia angustifolia*) poisoning of sheep. N. Am. Vet., 37: 461-462.

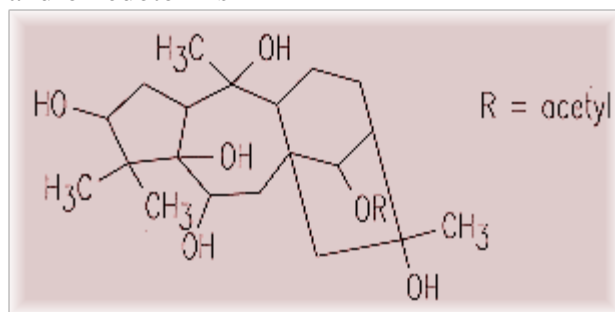
Verlangieri, A. J., Gawlikowski, J. N., Shapiro, R. 1976. Acute toxicity of *Kalmia angustifolia*, (sheep laurel) extracts in the rat. Vet. Toxicol., 18: 122-124.

**Notes on Toxic plant chemicals:**

Andromedotoxin and resins derived from diterpenes are the toxic compounds found in all the toxic species of the heath plant family. The toxin is found even in the nectar of flowers (Fuller and McClintock 1986). Experimental poisoning of rats using leaf extracts resulted in an average LD-50 (female) of 8.2 g of green leaves per kilogram body weight. The leaves were toxic only in the spring. Leaves of plants growing in wet areas were more toxic than those growing in dry areas (Verlangieri et al. 1976).

**Toxic plant chemicals:**

andromedotoxins



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Verlangieri, A. J., Gawlikowski, J. N., Shapiro, R. 1976. Acute toxicity of *Kalmia angustifolia*, (sheep laurel) extracts in the rat. Vet. Toxicol., 18: 122-124.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[breathing, shallow](#)  
[diarrhea](#)  
[gait, staggering](#)  
[incoordination](#)  
[recumbency](#)  
[salivation](#)  
[vomiting](#)

**Notes on poisoning:**

Experimental poisoning of cattle showed symptoms, including soft feces, salivation, vomiting, diarrhea, and incoordination. Consuming green leaves equivalent to 0.2% of an animal's body weight was determined to cause toxic signs in cattle (Marsh 1930). A few cattle in the field were poisoned after ingesting sheep-laurel (Kingsbury 1964).

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Marsh, C. D. 1930. Mountain-laurel (*Kalmia latifolia*) and sheep laurel (*Kalmia angustifolia*) as stock-poisoning plants. U. S. Dept. Agric. Tech. Bull., 219. 22 pp.

**Goats**

**General symptoms of poisoning:**

[incoordination](#)  
[recumbency](#)  
[vomiting](#)  
[weakness](#)

**Notes on poisoning:**

Experimental poisoning of goats fed green leaves resulted in symptoms, including profuse vomiting, staggering, recumbency, weakness, shallow breath, and teeth grinding. Sheep-laurel causes toxic signs in goats if ingested green material equaled at least 0.25% of animal body weight (Marsh 1930).

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

**Humans**

**General symptoms of poisoning:**

[coma](#)

**References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

## **Rodents**

### **General symptoms of poisoning:**

[coma](#)

[convulsions](#)

[death](#)

[nasal discharge](#)

[paralysis](#)

[salivation](#)

[vomiting](#)

### **References:**

Verlangieri, A. J., Gawlikowski, J. N., Shapiro, R. 1976. Acute toxicity of *Kalmia angustifolia*, (sheep laurel) extracts in the rat. Vet. Toxicol., 18: 122-124.

## **Sheep**

### **General symptoms of poisoning:**

[ataxia](#)

[coma](#)

[convulsions](#)

[death](#)

[depression](#)

[dyspnea](#)

[headache](#)

[nasal discharge](#)

[pupil dilation](#)

[recumbency](#)

[salivation](#)

[vomiting](#)

### **Notes on poisoning:**

Experimental poisoning of a goat caused symptoms of poisoning similar to those seen in sheep. A dosage of green leaves equal to 0.5% of an animal's body weight caused symptoms to occur (Clawson 1933).

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Pritchard, W. R. 1956. Laurel (*Kalmia angustifolia*) poisoning of sheep. N. Am. Vet., 37: 461-462.

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## [Notes on poisoning: showy lady's-slipper](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Showy lady's-slipper (*Cypripedium reginae*) is a native orchid found in eastern Canada. The plant can cause dermatitis in sensitive individuals. The symptoms are similar to those of poison-ivy (*Rhus spp.*). See additional information under general notes of *Cypripedium acaule*.

### References:

Reddoch, A. H., Reddoch, J. M. 1984. Warning: Lady's-slippers can be hazardous to your health. Plant Press, 2(1): 10.

### Nomenclature:

Scientific Name: *Cypripedium reginae* Walt.

Vernacular name(s): showy lady's-slipper

Scientific family name: *Orchidaceae*

Vernacular family name: orchid

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Cypripedium reginae](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

showy lady's-slipper:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Reddoch, A. H., Reddoch, J. M. 1984. Warning: Lady's-slippers can be hazardous to your health. Plant Press, 2(1): 10.

### **Toxic plant chemicals:**

cypripedin

### **References:**

Reddoch, A. H., Reddoch, J. M. 1984. Warning: Lady's-slippers can be hazardous to your health. Plant Press, 2(1): 10.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

**General symptoms of poisoning:**

[blisters, weeping](#)

**References:**

Reddoch, A. H., Reddoch, J. M. 1984. Warning: Lady's-slippers can be hazardous to your health. Plant Press, 2(1): 10.

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|   |                            |                       |  |                             |
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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: showy milkweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Showy milkweed (*Asclepias speciosa*) is a native plant found in dry rangelands in western Canada. The plant is poisonous to sheep and cattle. However, this plant is so distasteful to livestock that they ingest it only under extreme circumstances (Fleming et al. 1920)

### References:

Fleming, C. E., Peterson, N. F., Miller, M. R., Vawter, L. R., Wright, L. H. 1920. The narrow-leaved milkweed and the broad-leaved or showy milkweed. Plants poisonous to livestock in Nevada. Univ. Nev. Agric. Exp. Stn. Bull., 99. 32 pp.

### Nomenclature:

Scientific Name: *Asclepias speciosa* Torr.

Vernacular name(s): showy milkweed

Scientific family name: *Asclepiadaceae*

Vernacular family name: milkweed

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Asclepias speciosa](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

showy milkweed:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Experimental feeding tests on sheep showed that leaves are poisonous, but that large amounts must be ingested: (a 43-kg ewe died after ingesting 1 kg of green leaves. The pods and seeds are also poisonous (Fleming et al. 1920).

### **Toxic parts:**

leaves  
mature fruit  
seeds

### **References:**

Fleming, C. E., Peterson, N. F., Miller, M. R., Vawter, L. R., Wright, L. H. 1920. The narrow-leaved milkweed and the broad-leaved or showy milkweed. Plants poisonous to livestock in Nevada. Univ. Nev. Agric. Exp. Stn. Bull., 99. 32 pp.

### **Toxic plant chemicals:**

desglucosyrioside  
syrioside

### **References:**

Joubert, J. P. 1989. Cardiac glycosides. Pages 61-97 in Cheeke, P.

R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

### **Sheep**

### **General symptoms of poisoning:**

[appetite, loss of](#)  
[breathing, labored](#)  
[breathing with grunts](#)  
[recumbency](#)

### **References:**

Fleming, C. E., Peterson, N. F., Miller, M. R., Vawter, L. R., Wright, L. H. 1920. The narrow-leaved milkweed and the broad-leaved or showy milkweed. Plants poisonous to livestock in Nevada. Univ. Nev. Agric. Exp. Stn. Bull., 99. 32 pp.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Siberian scilla](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Siberian scilla (*Scilla siberica*) is a hardy perennial bulb planted outdoors, and sometimes forced indoors, for its beautiful early spring flowers. The entire plant contains cardiac glycosides, which can potentially cause poisoning if ingested. No cases of poisoning have been documented. This is not a good plant to have around children or pets, which have a habit of chewing leaves. Other *Scilla* species may be available in Canada and may also contain toxins. *Scilla* species may also cause skin irritation in sensitive individuals (Lampe and McCann 1985, Spoerke and Smolinske 1990).

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Scilla siberica* Andr.

Vernacular name(s): Siberian scilla

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Scilla siberica](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Siberian scilla:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The entire plant contains the toxins, including the bulbs and flowers (Lampe and McCann 1985).

### **Toxic parts:**

all parts  
bulbs  
flowers  
leaves

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

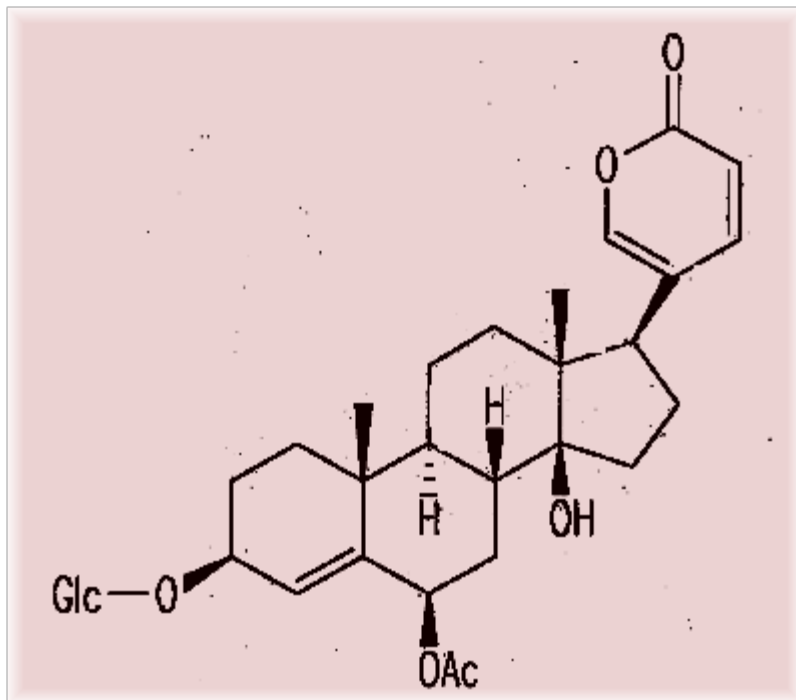
Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Notes on Toxic plant chemicals:**

Many *Scilla* species contain cardiac glycosides, scilla-dienolides, which act like digitalis (Spoerke and Smolinske 1990).

## Toxic plant chemicals:

scilla-dienolides



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

## References:

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Humans

### General symptoms of poisoning:

[abdominal pains](#)

[diarrhea](#)

[vomiting](#)

### Notes on poisoning:

Symptoms can include pain in the mouth cavity, abdominal pains, cramps, diarrhea, and an irregular pulse. Several species of *Scilla* are reported to irritate the skin of sensitive individuals (Spoerke and Smolinske 1990).

## References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

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## [Notes on poisoning: silky lupine](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Silky lupine (*Lupinus sericeus*) is a native herb of western Canada. This lupine has caused poisoning and death in cattle, goats, horses, and sheep. Sheep eat the plants more readily than do other animals and are therefore more commonly poisoned. Cattle also suffer from crooked calf disease, a teratogenic syndrome caused by maternal ingestion of certain lupines between day 40 and day 70 of gestation. The calves can suffer from arthrogryposis, scoliosis, and other deformities. Humans are also at risk from lupine toxins. In one case in California, a child was born with limb deformities. The family raised milk goats that had also given birth to kids with deformed limbs, and a dog gave birth to deformed pups. All had ingested the goat's milk during pregnancy. Anagryne in a local lupine species was believed to cause the problem. Tests showed that lactating goats that ingest lupine seeds pass anagryne in the milk. Edible lupine seeds are being marketed in health food stores. In Edmonton (Smith 1987), a woman suffered mild dizziness and incoordination after ingesting the seeds. She did not follow specific instructions to soak and boil the seeds in several changes of water, which is necessary to remove the toxins.

### References:

Keeler, R. F. 1989. Quinolizidine alkaloids in range and grain lupins. Pages 133-167 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Lupinus sericeus* Pursh

Vernacular name(s): silky lupine

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lupinus sericeus](#)



## References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

## Geographic Information

Alberta  
British Columbia  
Yukon Territory

## References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## Image or illustration

silky lupine:

Images: [images.google.com](http://images.google.com)

## Notes on Poisonous plant parts:

The teratogenic alkaloid anagyrene is highest in the seeds, pods, and young leaves. The quinolizidine alkaloids implicated in lupine poisoning and death are found mostly in the seeds and pods. Large quantities of the plant material must be ingested in a short time. The alkaloids remain after drying, so that hay containing sufficient quantities of lupine can be toxic (Kingsbury 1964, Keeler 1989).

## Toxic parts:

leaves

mature fruit  
seeds  
stems

**References:**

Davis, A. M., Stout, D. M. 1986. Anagryne in western American lupines. *J. Range Manage.*, 39: 29-30.

Keeler, R. F. 1989. Quinolizidine alkaloids in range and grain lupins. Pages 133-167 in Cheeke, P. R., ed. *Toxicants of plant origin*. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

Kingsbury, J. M. 1964. *Poisonous plants of the United States and Canada*. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

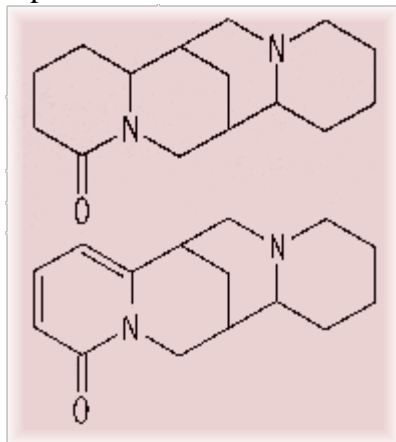
**Notes on Toxic plant chemicals:**

Silky lupine contains two major quinolizidine alkaloids, lupanine and sparteine. These alkaloids and their derivatives cause poisoning and death in livestock. This species also contains a teratogenic chemical, anagryne, which causes birth deformities in calves after maternal ingestion of the plants between day 40 and day 70.

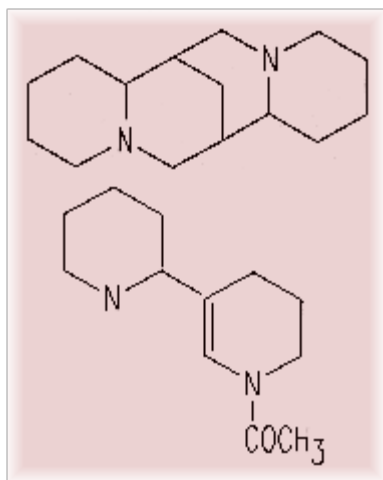
Amounts of up to 6.84 g/kg have been measured, which exceeds the minimum of 1.44 g/kg required to cause crooked calf disease (Davis and Stout 1986, Keeler 1989). The LD-50 of lupanine by oral ingestion in rats is 1464 mg/kg. This alkaloid is rapidly cleared from the body (Pettersen et al. 1987).

**Toxic plant chemicals:**

anagryne  
lupanine



sparteine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Davis, A. M., Stout, D. M. 1986. Anagyrine in western American lupines. *J. Range Manage.*, 39: 29-30.

Keeler, R. F. 1989. Quinolizidine alkaloids in range and grain lupins. Pages 133-167 in Cheeke, P. R., ed. *Toxicants of plant origin*. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

Petterson, D. S., Ellis, Z. L., Harris, D. J., Spadek, Z. E. 1987. Acute toxicity of the major alkaloids of cultivated *Lupinus angustifolius* seed to rats. *J. Appl. Toxicol.*, 7: 51-53.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Cattle

#### General symptoms of poisoning:

[arthrogryposis](#)  
[breathing, labored](#)  
[convulsions](#)  
[palatoschisis](#)  
[scoliosis](#)  
[torticollis](#)  
[trembling](#)

#### Notes on poisoning:

Cattle do not eat lupines as readily as sheep and therefore seldom ingest lethal quantities. Symptoms are similar to those of sheep (Kingsbury 1964).

## References:

Keeler, R. F. 1989. Quinolizidine alkaloids in range and grain lupins. Pages 133-167 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## Horses

### General symptoms of poisoning:

[breathing, labored](#)  
[convulsions](#)  
[trembling](#)

### Notes on poisoning:

Horses do not ingest lupines as readily as do sheep. Toxic symptoms therefore seldom appear in horses. Symptoms are similar to those seen in sheep (Kingsbury 1964).

## References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## Humans

### General symptoms of poisoning:

[dizziness](#)  
[incoordination](#)

### Notes on poisoning:

Smith (1987) reports the case of a woman who complained of dizziness and incoordination after ingesting edible lupine seeds purchased in Edmonton. The women had not followed the cooking instructions, which required soaking and boiling the seeds in several changes of water. The toxic alkaloids are removed through several stages of cooking; the process must be continued until no bitterness is left. In lupine seeds a lethal dose of lupanine has been determined to be about 100 mg/kg. If not properly cooked, 10 g of seeds may liberate more than 100 mg of lupanine. Keeler (1989) discusses a possible link between ingesting goat's milk and the occurrence of birth deformities in a baby. The goats may have been eating a lupine species that contained the teratogenic chemical anagyrene, which was passed through the woman when she drank goat's milk during pregnancy.

## References:

Keeler, R. F. 1989. Quinolizidine alkaloids in range and grain lupins. Pages 133-167 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

## Sheep

### General symptoms of poisoning:

[breathing, labored](#)

[coma](#)

[convulsions](#)

[death by asphyxiation](#)

[depression](#)

[dyspnea](#)

### Notes on poisoning:

Symptoms of lupine ingestion in sheep include labored breathing, depression, coma (often with snoring), and death from asphyxiation. Tremors and convulsions may occur. The animal may butt other sheep or stand leaning against an object. Teeth grinding and frothing have been observed. Sheep consume lupine more readily than do other livestock and are therefore the major species susceptible to lupine toxicity. Ingesting seeds equal to 0.25-0.5% of body weight can cause poisoning (Keeler 1964).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: silvery lupine](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Silvery lupine (*Lupinus argenteus*) is a western range plant that has caused sickness and death in sheep in western North America. Ingestion of this plant by pregnant cattle can also cause teratogenic effects in calves (Cheeke and Schull 1985, Keeler 1989). See additional notes under silky lupine ([Lupinus sericeus](#)).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Keeler, R. F. 1989. Quinolizidine alkaloids in range and grain lupins. Pages 133-167 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Lupinus argenteus* Pursh

Vernacular name(s): silvery lupine

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lupinus argenteus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

silvery lupine:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The concentration of anagyrine decreases in the leaves once the seeds begin to form, and then is greatest in the seeds. Total alkaloid content is greatest in the seeds. See notes under silky lupine ([Lupinus sericeus](#)) for additional information.

### **Toxic parts:**

leaves  
seeds

### **References:**

Keeler, R. F. 1989. Quinolizidine alkaloids in range and grain lupins. Pages 133-167 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

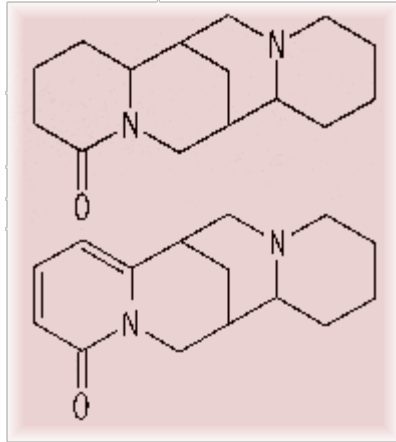
### **Notes on Toxic plant chemicals:**

Two alkaloids, lupanine and sparteine, (both quinolizidine alkaloids), are probably involved in causing poisoning in sheep

(Keeler 1989). This species also has been found to contain 3.34 g/kg of anagryrine, exceeding the minimum level of 1.44 g/kg needed to cause crooked calf disease (Davis 1982, Davis and Stout 1986).

### Toxic plant chemicals:

anagryrine  
lupanine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Davis, A. M., Stout, D. M. 1986. Anagryrine in western American lupines. *J. Range Manage.*, 39: 29-30.

Davis, A. M. 1982. The occurrence of anagryrine in a collection of western American lupines. *J. Range Manage.*, 35: 81-84.

Keeler, R. F. 1989. Quinolizidine alkaloids in range and grain lupins. Pages 133-167 in Cheeke, P. R., ed. *Toxicants of plant origin*. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

### General symptoms of poisoning:

[arthrogryposis](#)

[palatoschisis](#)

[scoliosis](#)

[torticollis](#)

### References:



Keeler, R. F. 1989. Quinolizidine alkaloids in range and grain lupins. Pages 133-167 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

## Sheep

### General symptoms of poisoning:

[breathing, labored](#)

[coma](#)

[convulsions](#)

[death by asphyxiation](#)

[trembling](#)

### Notes on poisoning:

Symptoms of ingestion include labored breathing, which may be accompanied by snoring, trembling, convulsions, coma, and death from respiratory paralysis (Keeler 1989). See additional notes under silky lupine [Lupinus sericeus](#)).

### References:

Keeler, R. F. 1989. Quinolizidine alkaloids in range and grain lupins. Pages 133-167 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: skunk cabbage](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Skunk cabbage (*Symplocarpus foetidus*) is a robust native herb found in wet marshy areas in parts of eastern Canada. Ingesting the plant can cause intense pain and irritation in the mouth area after chewing the roots or leaves (Lampe and McCann 1985). No case reports of such irritation were found in the literature for humans or livestock.

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Symplocarpus foetidus* (L.) Nutt.

Vernacular name(s): skunk cabbage

Scientific family name: *Araceae*

Vernacular family name: arum

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Symplocarpus foetidus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

New Brunswick  
Nova Scotia  
Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

skunk cabbage:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
roots

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Toxic plant chemicals:**

oxalate

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[aphonia](#)

[dysphagia](#)

[hoarseness](#)

[mouth, irritation of](#)

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: small lupine](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Small lupine (*Lupine pusillus*) is a native herb in the southern prairies. This species has been involved in poisoning of sheep (Fuller and McClintock 1986). See additional information under silky lupine [Lupinus sericeus](#)).

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### Nomenclature:

Scientific Name: *Lupinus pusillus* Pursh

Vernacular name(s): small lupine

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lupinus pusillus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

small lupine:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
seeds

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Notes on Toxic plant chemicals:**

Small lupine contains quinolizidine alkaloids, which have resulted in poisoning (Kingsbury 1964, Fuller and McClintock 1986).

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Sheep**

## **General symptoms of poisoning:**

[breathing, labored](#)

[coma](#)

[convulsions](#)

[depression](#)

[muscle twitching](#)

## **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: smooth pigweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Smooth pigweed (*Amaranthus retroflexus*) is a naturalized herb found in waste places across Canada. Ingesting this plant has caused nitrate poisoning of cattle in New Zealand. No other literature references to poisoning were found (Duckworth 1975).

### References:

Duckworth, R. H. 1975. Poisoning of cattle by *Amaranthus*. N. Z. Vet. J., 23: 154-155.

### Nomenclature:

Scientific Name: *Amaranthus hybridus* L.

Vernacular name(s): smooth pigweed

Scientific family name: *Amaranthaceae*

Vernacular family name: amaranth

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Amaranthus hybridus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.



Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

smooth pigweed:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

stems

### **References:**

Duckworth, R. H. 1975. Poisoning of cattle by *Amaranthus*. N. Z. Vet. J., 23: 154-155.

### **Notes on Toxic plant chemicals:**

Smooth pigweed (*Amaranthus hybridus*) has caused poisoning of cattle from nitrate accumulation. All the *Amaranthus* spp. listed in this information system are nitrate accumulators. In serious cases, poisoning and death can occur (Duckworth 1975, Osweiler et al. 1985).

### **Toxic plant chemicals:**

nitrate

### **References:**

Duckworth, R. H. 1975. Poisoning of cattle by *Amaranthus*. N. Z. Vet. J., 23: 154-155.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

### **General symptoms of poisoning:**

[blood brownish](#)  
[death](#)  
[gait, unsteady](#)  
[mucous membrane, brown](#)  
[nervousness](#)

### **Notes on poisoning:**

In one case in New Zealand, cattle were poisoned and one died as a result of suspected nitrate poisoning after ingesting smooth pigweed. The mucous membranes were brown and the blood was dark. The animals were unsteady. Postmortem findings showed the rumen to be full of the plants, but no obvious lesions were present (Duckworth 1975).

### **References:**

Duckworth, R. H. 1975. Poisoning of cattle by *Amaranthus*. N. Z. Vet. J., 23: 154-155.

### **Swine**

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Date modified: 2009-09-01 [Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: sneezeweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Sneezeweed (*Helenium autumnale*) is a native herb found in parts of central and western Canada. This plant causes illness and occasional death in cattle and horses. It has been proved to be experimentally toxic to dogs but it is very unlikely that dogs would voluntarily ingest it. The plant is well-named because it is highly irritating to the nose, eyes, and stomach (Kingsbury 1964, Cheeke and Schull 1985, Fuller and McClintock 1986, Herz 1988).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Herz, W. 1978. Sesquiterpene lactones from livestock poisons. Pages 487-497 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Helenium autumnale* L.

Vernacular name(s): sneezeweed

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Helenium autumnale](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que.,

Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Northwest Territories  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

sneezeweed:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Herz, W. 1978. Sesquiterpene lactones from livestock poisons. Pages 487-497 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

### **Notes on Toxic plant chemicals:**

Helenalin, a sesquiterpene lactone, is the major toxin found in sneezeweed. The LD-50 for helenalin is between 85 and 150 mg/kg, given orally to sheep. This compound contains a seven-membered ring, a lactone structure, and an exocyclic methylene group (Cheeke and Schull 1985, Herz 1988).

### **Toxic plant chemicals:**

helenalin

### **References:**

Herz, W. 1978. Sesquiterpene lactones from livestock poisons. Pages 487-497 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[breathing, labored](#)  
[convulsions](#)  
[death](#)  
[incoordination](#)  
[mouth, frothing of](#)

#### **Notes on poisoning:**

Sneezeweed causes poisoning and death in cattle. Symptoms include frothing at the mouth, incoordination, and convulsions. The plant is highly irritating to the nose, eyes, and stomach. Cows that ingest this plant produce bitter-tasting milk (Kingsbury 1964, Fuller and McClintock 1986).

#### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Herz, W. 1978. Sesquiterpene lactones from livestock poisons. Pages 487-497 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

## Horses

### General symptoms of poisoning:

[convulsions](#)  
[incoordination](#)  
[weakness](#)

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Herz, W. 1978. Sesquiterpene lactones from livestock poisons. Pages 487-497 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

## Humans

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: snowdrop](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Snowdrop (*Galanthus nivalis*) is an outdoor ornamental spring flower. This plant contains the alkaloid lycorine, which can cause poisoning. Some individuals were poisoned after ingesting the bulbs as emergency food in Holland during World War II. Large amounts of bulbs need to be ingested to produce toxic reactions (Lampe and McCann 1985, Fuller and McClintock 1986).

### References:

- Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.
- Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### Nomenclature:

Scientific Name: *Galanthus nivalis* L.

Vernacular name(s): snowdrop

Scientific family name: *Amaryllidaceae*

Vernacular family name: amaryllis

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Galanthus nivalis](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.
- Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.
- Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

snowdrop:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bulbs

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Toxic plant chemicals:**

lycorine

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[diarrhea](#)



[nausea](#)  
[vomiting](#)

**References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants.  
Wolfe Publishing Ltd., London, England. 291 pp.

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| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Sorghum](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Sorghum (*Sorghum bicolor*) is a cultivated plant grown as ensilage, as poultry feed, or sometimes as broomcorn, for its long, flexible, high-quality broom fibers. Sorghum can contain a cyanogenic glycoside that can produce HCN during times of stress or if damaged by frost or mastication. Modern sorghums have been developed for their low HCN potential and are normally safe. Sorghum can also accumulate toxic levels of nitrates. Cattle and rarely horses have been poisoned (Kingsbury 1964, Gray et al. 1968, Clay et al. 1976).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Clay, B. R., Edwards, W. C., Peterson, D. R. 1976. Toxic nitrate accumulation in the sorghums. *Bovine Pract.*, 11: 28-32.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Gray, E., Rice, J. S., Wattenbarger, D., Benson, J. A., Hester, A. J., Loyd, R. C., Greene, B. M. 1968. Hydrocyanic acid potential of *Sorghum* plants grown in Tennessee. *Tenn. Agric. Exp. Stn. Bull.*, 445. 48 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Morgan, S. E., Johnson, B., Brewer, B., Walker, J. 1990. Sorghum cystitis ataxia syndrome in horses. *Vet. Hum. Toxicol.*, 32: 582.

### Nomenclature:

Scientific Name: *Sorghum bicolor* (L.) Moench

Vernacular name(s): Sorghum

Scientific family name: *Gramineae*

Vernacular family name: grass

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Sorghum bicolor](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Plant or plant parts used in or around the home.

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

Sorghum:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

Damaged leaves and stems can release HCN. Since HCN is volatile, silage made from this plant is generally safe (Cheeke and Schull 1985).

### Toxic parts:

leaves  
stems

## References:

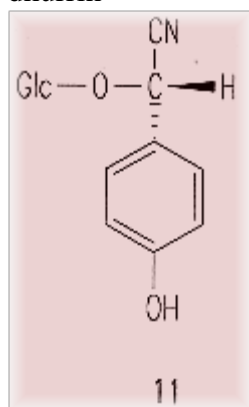
Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

## Notes on Toxic plant chemicals:

In the presence of plant enzymes released by damage, a cyanogenic glycoside, dhurrin, produces hydrocyanic acid (HCN) in the animal's system. Levels of cyanide at 250 mg/100 g of plant tissue have been measured after damage. A lethal dose of cyanide is 0.5-3 mg/kg of body weight. Some sorghum plants have been measured with levels 10 times a lethal of HCN (Cheeke and Schull 1985).

## Toxic plant chemicals:

dhurrin



nitrate

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

## References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Cattle

## General symptoms of poisoning:

[abortion](#)

[coma](#)  
[convulsions](#)  
[cyanosis](#)  
[death](#)  
[dyspnea](#)  
[gait, staggering](#)  
[methemoglobinemia](#)

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Clay, B. R., Edwards, W. C., Peterson, D. R. 1976. Toxic nitrate accumulation in the sorghums. *Bovine Pract.*, 11: 28-32.

Gray, E., Rice, J. S., Wattenbarger, D., Benson, J. A., Hester, A. J., Loyd, R. C., Greene, B. M. 1968. Hydrocyanic acid potential of *Sorghum* plants grown in Tennessee. *Tenn. Agric. Exp. Stn. Bull.*, 445. 48 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### **Horses**

#### **General symptoms of poisoning:**

[abortion](#)  
[incoordination](#)  
[urinary incontinence](#)

#### **Notes on poisoning:**

In the United States sublethal doses of HCN caused degeneration of the lumbar and sacral segments of the spinal cord in horses after they ingested sorghum. Large quantities of sediment occur in the urine. If forced to move, affected horses sway from side to side and dribble urine, a condition known as sorghum cystitis ataxia. Other symptoms include an extremely enlarged bladder and patchy encephalomalacia with axonal degeneration. Damage is permanent. When fed sorghums during early pregnancy, mares have aborted. The causal toxin has not been determined yet (Fuller and McClintock 1986, Morgan et al. 1990).

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Morgan, S. E., Johnson, B., Brewer, B., Walker, J. 1990. Sorghum cystitis ataxia syndrome in horses. *Vet. Hum. Toxicol.*, 32: 582.

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## [Notes on poisoning: spatulate-leaved heliotrope](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### **General poisoning notes:**

Spatulate-leaved heliotrope (*Heliotropium curassavicum*) is a native herb found in southern parts of western Canada. This plant contains pyrrolizidine alkaloids. It and other members of the genus (*Heliotropium species*) are used in herbal teas and have been used in several parts of the world for medicinal reasons. Over consumption of such teas may cause veno-occlusive disease of the liver (Budd-Chiari syndrome), with hepatic vein thrombosis (Lampe and McCann 1985, Huxtable 1989).

### **References:**

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Nomenclature:**

Scientific Name: *Heliotropium curassavicum* L.

Vernacular name(s): spatulate-leaved heliotrope

Scientific family name: *Boraginaceae*

Vernacular family name: borage

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Heliotropium curassavicum](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ.,

Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
Manitoba  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

spatulate-leaved heliotrope:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Notes on Toxic plant chemicals:**

The heliotropes contain hepatotoxic pyrrolizidine alkaloids of the nonacyclic diester type. These alkaloids can cause veno-occlusive disease (Huxtable 1989).

### **Toxic plant chemicals:**

unknown chemical



## References:

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Humans

### General symptoms of poisoning:

[abdominal pains](#)

[anorexia](#)

[ascites](#)

[death](#)

[diarrhea](#)

[liver, cirrhosis of](#)

[nausea](#)

[vomiting](#)

### Notes on poisoning:

Symptoms of over-consumption of these plants may result in veno-occlusive disease of the liver. This is accompanied by abdominal pain and ascites. Cirrhosis of the liver can result. Other results are hepatomegaly and splenomegaly. Death may result. There is no specific treatment for toxin-induced hepatic veno-occlusive disease (Lampe and McCann 1985, Huxtable 1989).

## References:

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
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## [Notes on poisoning: spotted dumbcane](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Spotted dumbcane (*Dieffenbachia maculata*) is an indoor ornamental. Experimental work with leaf and stem material caused death in mice and rats (Der Marderosian et al. 1976). Toxic symptoms have also occurred in humans and house pets. Chewing produces painful irritation of the mouth and throat. Symptoms may take several days to disappear. The insoluble oxalates do not cause systemic poisoning in humans (Lampe and McCann 1985).

### References:

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

### Nomenclature:

Scientific Name: *Dieffenbachia maculata* (Lodd.) G. Don

Vernacular name(s): spotted dumbcane

Scientific family name: *Araceae*

Vernacular family name: arum

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Dieffenbachia maculata](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

spotted dumbcane:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

### **Notes on Toxic plant chemicals:**

See notes under [Dieffenbachia seguine](#) for additional information on toxic chemicals in *Dieffenbachia* spp.

### **Toxic plant chemicals:**

oxalate

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[mouth, irritation of](#)

### **Notes on poisoning:**

See additional notes under [Dieffenbachia seguine](#).

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976.  
Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

## **Rodents**

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[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: spotted water-hemlock](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Spotted water-hemlock (*Cicuta maculata*) is a native perennial herb found in wet soils and marshes across most of Canada and is considered the most violently toxic plant in North America. Humans and all classes of livestock are susceptible to poisoning and death after ingesting plant material. The onset of symptoms is often so sudden and traumatic that treatments are not always successful. The symptoms are similar in all cases of poisoning: salivation, muscular spasms, violent convulsions, coma, and death from asphyxiation. Death can occur within 15 minutes to 2-3 h after a lethal dose (Starrveld and Hope 1976, Panter et al. 1988).

### References:

Campbell, E. W. 1966. Plant poisoning Umbelliferae (parsley family). *Maine Med. Assoc.*, 57(2): 40-42.

Haggerty, D. R., Conway, J. A. 1936. Report of poisoning by *Cicuta maculata*. *Water hemlock*. *N. Y. State J. Med.*, 36: 1511-1514.

Pammel, L. H. 1928. Cowbane (wild parsnip). *N. Am. Vet.*, 9: 25-26.

Panter, K. E., Keeler, R. F., Baker, D. C. 1988. Toxicoses in livestock from the hemlocks (*Conium* and *Cicuta* spp.). *J. Anim. Sci.*, 66: 2407-2413.

Skidmore, L. V. 1933. Water hemlock (*Cicuta maculata* L.) poisoning in swine. *Vet. J.*, 89: 76-80.

Smith, R. A., Lewis, D. 1987. *Cicuta* toxicosis in cattle: case history and simplified analytical method. *Vet. Hum. Toxicol.*, 29(3): 240-241.

Starreveld, E., Hope, C. E. 1975. Cicutoxin poisoning (water hemlock). *Neurology*, 25: 730-734.

### Nomenclature:

Scientific Name: *Cicuta maculata* L.

Vernacular name(s): spotted water-hemlock

Scientific family name: *Umbelliferae*

Vernacular family name: parsley

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Cicuta maculata](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

spotted water-hemlock:

Images: [images.google.com](http://images.google.com)

### Notes on Poisonous plant parts:

The toxin is concentrated in the rootstock in the spring. Later during the growing season, the roots contain less toxin, and the leaves and stems contain sufficient chemical to cause lethal poisoning (Starreveld and Hope 1975).

### Toxic parts:

all parts  
roots

### References:

Pammel, L. H. 1928. Cowbane (wild parsnip). N. Am. Vet., 9: 25-26.

Skidmore, L. V. 1933. Water hemlock (*Cicuta maculata* L.) poisoning in swine. Vet. J., 89: 76-80.

Smith, R. A., Lewis, D. 1987. *Cicuta* toxicosis in cattle: case history and simplified analytical method. Vet. Hum. Toxicol., 29(3): 240-241.

Starreveld, E., Hope, C. E. 1975. Cicutoxin poisoning (water hemlock). Neurology, 25: 730-734.

### Notes on Toxic plant chemicals:

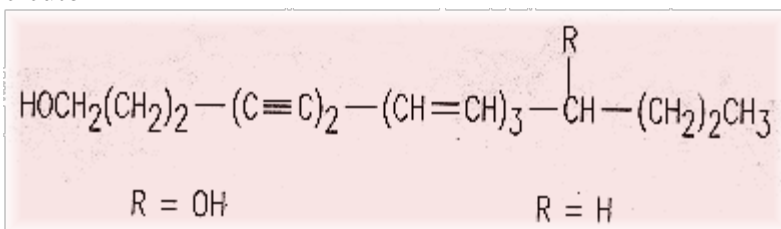
The chemical cicutoxin, (trans)heptadeca-8:10:12-triene-4:6-diene-1:4-diol, is a highly unsaturated higher alcohol. Cicutol is also present. Bohlman (pers. comm.) in Mulligan and Munro (1981) found the following concentrations of these chemicals in *Cicuta* rootstocks:

|   |                              |
|---|------------------------------|
| <i>Cicuta maculata</i> var. <i>maculata</i> | 1.01 mg/g active ingredients |
| <i>Cicuta douglasii</i>                     | 0.75 mg/g                    |
| <i>Cicuta virosa</i>                        | 0.07 mg/g                    |
| <i>Cicuta bulbifera</i>                     | 0.01 mg/g                    |

**The first two *Cicuta* spp. are considered the most violently toxic plants in North America. *Cicuta virosa* is less likely to cause poisoning because of its reduced concentration of toxic compounds. *Cicuta bulbifera* contains too little toxin to be considered a threat.**

### Toxic plant chemicals:

## cicutol



## cicutoxin

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Campbell, E. W. 1966. Plant poisoning Umbelliferae (parsley family). *Maine Med. Assoc.*, 57(2): 40-42.

Skidmore, L. V. 1933. Water hemlock (*Cicuta maculata* L.) poisoning in swine. *Vet. J.*, 89: 76-80.

Smith, R. A., Lewis, D. 1987. *Cicuta* toxicosis in cattle: case history and simplified analytical method. *Vet. Hum. Toxicol.*, 29(3): 240-241.

Starreveld, E., Hope, C. E. 1975. Cicutoxin poisoning (water hemlock). *Neurology*, 25: 730-734.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle****General symptoms of poisoning:**

[convulsions](#)  
[death](#)  
[falling down](#)  
[nervousness](#)  
[salivation](#)

**Notes on poisoning:**

Cattle have symptoms of poisoning similar to those of other livestock. The symptoms include salivation, grinding of teeth, muscular spasms, violent convulsions, and death by asphyxiation. Smith and Lewis (1987) developed a rapid technique for identifying the presence of the toxic compounds of water-hemlocks in rumen samples.

**References:**



Pammel, L. H. 1928. Cowbane (wild parsnip). N. Am. Vet., 9: 25-26.

Panter, K. E., Keeler, R. F., Baker, D. C. 1988. Toxicoses in livestock from the hemlocks (*Conium* and *Cicuta* spp.). J. Anim. Sci., 66: 2407-2413.

Smith, R. A., Lewis, D. 1987. *Cicuta* toxicosis in cattle: case history and simplified analytical method. Vet. Hum. Toxicol., 29(3): 240-241.

## **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[cardiac arrest](#)

[coma](#)

[confusion](#)

[convulsions](#)

[cyanosis](#)

[death](#)

[dizziness](#)

[eyeballs, protruding](#)

[eyes, rolling](#)

[faintness](#)

[heart rate, elevated](#)

[inebriation](#)

[metabolic acidosis](#)

[mouth, frothing of](#)

[muscle contractions](#)

[muscle spasms](#)

[muscle twitching](#)

[nausea](#)

[neck, rigid](#)

[opisthotonos](#)

[pupil dilation](#)

[pupils, pinpoint](#)

[reflex excitability](#)

[salivation](#)

[teeth grinding](#)

[unconsciousness](#)

[voiding, involuntary](#)

[vomiting](#)

### **Notes on poisoning:**

Symptoms of poisoning by the genus *Cicuta* include dizziness, salivation, clenching and grinding of teeth, violent convulsions, cyanosis, coma, and death from asphyxiation. In one case, a fisherman took two bites from the roots and then felt dizzy and fell unconscious within 30 min. The patient endured pain and convulsions for some time. Recommended treatment includes administration of oxygen, anesthesia to control gross wild

movements, and intravenous sodium bicarbonate to correct metabolic acidosis. At least 83 cases of human poisoning by water-hemlock have been reported since 1900, of which 21 were fatal. The rootstocks are generally distasteful, but ingesting of only one bite causes symptoms in humans (Starrveld and Hope 1976). These notes apply to all water-hemlock species (*Cicuta*) listed in this information system.

### References:

Campbell, E. W. 1966. Plant poisoning Umbelliferae (parsley family). *Maine Med. Assoc.*, 57(2): 40-42.

Haggerty, D. R., Conway, J. A. 1936. Report of poisoning by *Cicuta maculata*. Water hemlock. *N. Y. State J. Med.*, 36: 1511-1514.

Pammel, L. H. 1928. Cowbane (wild parsnip). *N. Am. Vet.*, 9: 25-26.

Panter, K. E., Keeler, R. F., Baker, D. C. 1988. Toxicoses in livestock from the hemlocks (*Conium* and *Cicuta* spp.). *J. Anim. Sci.*, 66: 2407-2413.

Starreveld, E., Hope, C. E. 1975. Cicutoxin poisoning (water hemlock). *Neurology*, 25: 730-734.

### Sheep

#### General symptoms of poisoning:

[breathing, labored](#)  
[death](#)  
[recumbency](#)

#### Notes on poisoning:

Ewes weighing 70 kg were experimentally poisoned with fresh rootstock. The ewe given 100 g showed few symptoms; 200 g of plant material caused extensive symptoms including seizures, recumbency, and labored breathing. Recovery occurred after several days. Gavage with 450 g of the rootstock caused death in 90 min (Panter et al. 1988).

### References:

Panter, K. E., Keeler, R. F., Baker, D. C. 1988. Toxicoses in livestock from the hemlocks (*Conium* and *Cicuta* spp.). *J. Anim. Sci.*, 66: 2407-2413.

### Swine

#### General symptoms of poisoning:

[agonal squeals](#)

---

[brain, congestion of](#)  
[convulsions](#)  
[death](#)  
[lesions, no specific](#)  
[lungs, congestion of](#)  
[muscle contractions](#)  
[paralysis](#)  
[reflex excitability](#)

**References:**

Skidmore, L. V. 1933. Water hemlock (*Cicuta maculata* L.) poisoning in swine. Vet. J., 89: 76-80.

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## [Notes on poisoning: spreading dogbane](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Spreading dogbane (*Apocynum androsaemifolium*) is a native herb found across Canada. This plant has been reported to cause serious poisoning potential in cattle, horses, and sheep after ingestion (Johnson and Archer 1922). This information was credited to a report from the Arizona Experiment Station and to an article that was erroneously stated to be about *Apocynum*. However, that article actually concerned *Nerium* (oleander) poisoning of livestock. Therefore, the various signs and symptoms attributed to dogbane poisoning since 1922 are usually based on this mistake (Kingsbury 1959).

### References:

Fleurbec Inc. 1981. Plantes sauvages comestibles. Le groupe Fleurbec Inc., Sainte-Cuthbert, Que, Canada. 167 pp.

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Johnson, E. P., Archer, W. A. 1922. The principal stock-poisoning plants of New Mexico. N. M. Agric. Ext. Serv. Circ., 71. 40 pp.

Kingsbury, J. M. 1959. Toxicity of *Apocynum* (dogbane) to stock; a correction. Cornell Vet., 49: 285-287.

Moore, C. W. 1909. LXXXV. - The constituents of the rhizome of *Apocynum androsaemifolium*. J. Chem. Soc. (Lond.), 95: 734-751.

### Nomenclature:

Scientific Name: *Apocynum androsaemifolium* L.

Vernacular name(s): spreading dogbane

Scientific family name: *Apocynaceae*

Vernacular family name: dogbane

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Apocynum androsaemifolium](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

spreading dogbane:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

rhizome

## References:

Moore, C. W. 1909. LXXXV. - The constituents of the rhizome of *Apocynum androsaemifolium*. J. Chem. Soc. (Lond.), 95: 734-751.

## Notes on Toxic plant chemicals:

Experimental evidence shows that spreading dogbane contains apocynamarin, a cardiac glycoside, as well as other glycosides and resins. These chemicals have caused sickness and death when administered cats and dogs. The potential for poisoning therefore exists (Moore

## Toxic plant chemicals:

apocynamarin

## References:

Moore, C. W. 1909. LXXXV. - The constituents of the rhizome of *Apocynum androsaemifolium*. J. Chem. Soc. (Lond.), 95: 734-751.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cats

#### General symptoms of poisoning:

[blood pressure, high](#)  
[death](#)

## References:

Moore, C. W. 1909. LXXXV. - The constituents of the rhizome of *Apocynum androsaemifolium*. J. Chem. Soc. (Lond.), 95: 734-751.

### Dogs

#### General symptoms of poisoning:

[death](#)  
[vomiting](#)

## References:

Moore, C. W. 1909. LXXXV. - The constituents of the rhizome of *Apocynum androsaemifolium*. J. Chem. Soc. (Lond.), 95: 734-751.

### Horses

### Humans

#### General symptoms of poisoning:

[convulsions](#)  
[death](#)  
[diarrhea](#)  
[sweating](#)  
[urination, frequent](#)  
[vomiting](#)

**Notes on poisoning:**

The root of spreading dogbane has been used for medicinal purposes. Excessive doses of the extracts apparently cause sickness and death in humans (Fleurbec 1981).

**References:**

Fleurbec Inc. 1981. Plantes sauvages comestibles. Le groupe Fleurbec Inc., Sainte-Cuthbert, Que, Canada. 167 pp.

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Date modified: 2009-09-01 [Important Notices](#)



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|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: spurge-laurel](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Spurge-laurel (*Daphne laureola*) is an ornamental shrub that is poisonous to animals that ingest it. The *Daphne* species listed in this information system cause few cases of poisoning, but children or family pets can be affected. See additional information under general notes of [Daphne mezereum](#).

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Daphne laureola* L.

Vernacular name(s): spurge-laurel

Scientific family name: *Thymelaeaceae*

Vernacular family name: mezereum

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Daphne laureola](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus



Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

spurge-laurel:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
bark  
flowers  
leaves  
mature fruit

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Toxic plant chemicals:**

daphnetoxin  
dihydroxycoumarin  
mezerlein

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the

literature (as of 1993) contained no detailed explanation.

## **Cats**

## **Dogs**

## **Humans**

### **General symptoms of poisoning:**

[abdominal pains](#)

[diarrhea](#)

[dysphagia](#)

[mouth, irritation of](#)

[salivation](#)

[thirsty](#)

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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Date modified: 2009-09-01

[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: squirrel-corn](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Squirrel-corn (*Dicentra canadensis*) is a native herb found in rich woodlands in southern Ontario and Quebec. The plant contains alkaloids that are known to be toxic. However, feeding experiments on cattle using the aboveground parts, as well as the entire plant failed, to produce any symptoms other than slight restlessness and uneasiness (Black et al. 1923). See additional notes under general notes of [Dicentra cucullaria](#).

### References:

Black, O. F., Eggleston, W. W., Kelly, J. W., Turner, H. C. 1923. Poisonous properties of *Bikukulla cucullaria* (Dutchman's-breeches) and *B. canadensis* (squirrel-corn). J. Agric. Res., 23: 69-78.

### Nomenclature:

Scientific Name: *Dicentra canadensis* (Goldie) Walp.

Vernacular name(s): squirrel-corn

Scientific family name: *Fumariaceae*

Vernacular family name: frumitory

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Dicentra canadensis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci.

(Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario

Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

squirrel-corn:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

See additional information under general notes of [Dicentra cucullaria](#).

### **Toxic parts:**

leaves

tubers

### **References:**

Black, O. F., Eggleston, W. W., Kelly, J. W., Turner, H. C. 1923. Poisonous properties of *Bikukulla cucullaria* (Dutchman's-breeches) and *B. canadensis* (squirrel-corn). J. Agric. Res., 23: 69-78.

### **Notes on Toxic plant chemicals:**

Aporphine and protopine, which are isoquinoline alkaloids, have been found in *Dicentra* species. Several other alkaloids have also been found in the plants (Black et al. 1923).

### **Toxic plant chemicals:**

aporphine

protopine

### **References:**

Black, O. F., Eggleston, W. W., Kelly, J. W., Turner, H. C. 1923.  
Poisonous properties of *Bikukulla cucullaria* (Dutchman's-breeches)  
and *B. canadensis* (squirrel-corn). J. Agric. Res., 23: 69-78.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[restlessness](#)

#### **References:**

Black, O. F., Eggleston, W. W., Kelly, J. W., Turner, H. C. 1923.  
Poisonous properties of *Bikukulla cucullaria* (Dutchman's-breeches)  
and *B. canadensis* (squirrel-corn). J. Agric. Res., 23: 69-78.

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| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
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## [Notes on poisoning: St. John's-wort](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

St. John"s-wort (*Hypericum perforatum*) is a naturalized herb found in eastern Canada and British Columbia. The plant contains hypericin, which is a primary photosensitizing chemical. Ingestion has caused skin problems in cattle, horses, rabbits, sheep, and swine. The skin problems occur on white or light-colored skin; dark skin is not affected. Severe symptoms such as convulsions, staggering, and coma have occurred in some animals. Loss of wool quality occurs in sheep, and the meat of affected animals is of poor quality. This plant is widespread in Canada. The reaction is more severe if fresh plants are eaten, but dried plants can also cause photosensitization, even though 80% of the hypericin is lost (Araya and Ford 1981, Cooper and Johnson 1984, Crompton et al. 1988).

### References:

- Araya, O. S., Ford, E. J. 1981. An investigation of the type of photosensitization caused by the ingestion of St John's wort (*Hypericum perforatum*) by calves. *J. Comp. Pathol.*, 91: 135-141.
- Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.
- Crompton, C. W., Hall, I. V., Jensen, K. I., Hildebrand, P. D. 1988. The biology of Canadian weeds. 83. *Hypericum perforatum* L. *Can. J. Plant Sci.*, 68: 149-162.

### Nomenclature:

Scientific Name: *Hypericum perforatum* L.

Vernacular name(s): St. John's-wort

Scientific family name: *Guttiferae*

Vernacular family name: St. John's-wort

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Hypericum perforatum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

St. John's-wort:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

flowers  
leaves

### **References:**

Araya, O. S., Ford, E. J. 1981. An investigation of the type of photosensitization caused by the ingestion of St John's wort (*Hypericum perforatum*) by calves. J. Comp. Pathol., 91: 135-141.

### **Notes on Toxic plant chemicals:**

Hypericin, a fluorescent pigment, is regarded as a derivative of naphthodianthrone. The pigment is contained in small black dots that are just visible to the naked eye on leaves and petals. The chemical is a primary photosensitizer because the photodynamic action occurs in the skin (Araya and Ford 1981).

### **Toxic plant chemicals:**

hypericin

### **References:**

Araya, O. S., Ford, E. J. 1981. An investigation of the type of photosensitization caused by the ingestion of St John's wort (*Hypericum perforatum*) by calves. J. Comp. Pathol., 91: 135-141.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[muzzle, dry](#)

[restlessness](#)

[skin, dry](#)

#### **References:**

Araya, O. S., Ford, E. J. 1981. An investigation of the type of photosensitization caused by the ingestion of St John's wort (*Hypericum perforatum*) by calves. J. Comp. Pathol., 91: 135-141.

### **Horses**

#### **General symptoms of poisoning:**

[appetite, loss of](#)

[coma](#)

[gait, staggering](#)

[skin, peeling of](#)

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Rabbits**

#### **General symptoms of poisoning:**



[death](#)  
[liver, cirrhosis of](#)  
[skin, peeling of](#)

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Sheep**

**General symptoms of poisoning:**

[convulsions](#)  
[erythema](#)  
[skin, peeling of](#)

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

**Swine**

**General symptoms of poisoning:**

[skin, flushed](#)  
[skin, peeling of](#)

**References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
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## [Notes on poisoning: star-of-Bethlehem](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Star-of-Bethlehem (*Ornithogalum umbellatum*), an outdoor ornamental flower, contains glycosides similar to digitalis. In some countries children have been poisoned after ingesting the flowers or bulbs. Ingesting two bulbs by an adult caused shortness of breath. The bulbs contain the highest quantity of these toxins. Cattle in South Africa (the native region for star-of-Bethlehem) have been poisoned, resulting in permanent blindness and death after ingestion. Children and family pets should be prevented from ingesting material from this plant (Cooper and Johnson 1984, Lampe and McCann 1985, Spoerke and Smolinske 1990).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Ornithogalum umbellatum* L.

Vernacular name(s): star-of-Bethlehem

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Ornithogalum umbellatum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

star-of-Bethlehem:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bulbs  
flowers

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Notes on Toxic plant chemicals:**

Two digitalis-like glycosides, convallatoxin and convallaside, are found through the plant but are concentrated in the bulbs and the flowers (Lampe and McCann 1985).

### **Toxic plant chemicals:**

convallatoxin  
convalloside

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[diarrhea](#)  
[nausea](#)

### **Notes on poisoning:**

Symptoms of ingestion include pain in the mouth, nausea, abdominal pain, and diarrhea. Stomach lavage or use of emetics is recommended (Cooper and Johnson 1984, Lampe and McCann 1985).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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[Important Notices](#)



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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: stinging nettle](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Stinging nettle (*Urtica dioica*) is found across Canada and includes a wide-ranging native subspecies and an introduced subspecies found in the Maritime Provinces. The plant can form large colonies in orchards, farmyards, old pastures, ditches, and waste places. The stinging hairs readily break, allowing the secretions to enter skin. Humans receive a painful sting, followed by a small reddish swelling and prolonged itching and numbness. Initial reactions last only a few minutes but repeated contact can cause the pain to intensify and last for days. Hunting dogs in the United States were poisoned and died after massive exposure to the plants (Bassett et al. 1977, Mitchell and Rook 1979, Anon. 1982).

### References:

Anon. 1982. Stinging nettle (*Urtica* sp.) and dogs. *Vet. Hum. Toxicol.*, 24: 247.

Bassett, I. J., [Crompton, C. W.](#), Woodland, D. W. 1977. The biology of Canadian weeds. 21. *Urtica dioica* L. *Can. J. Plant Sci.*, 57: 491-498.

Mitchell, J. C., Rook, A. 1979. *Botanical dermatology*. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### Nomenclature:

Scientific Name: *Urtica dioica* L.

Vernacular name(s): stinging nettle

Scientific family name: *Urticaceae*

Vernacular family name: nettle

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Urtica dioica](#)

### References:

Agriculture Quebec. 1975. *Noms des maladies des plantes du Canada/ Names of plant diseases in Canada.*, Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

stinging nettle:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The stinging hairs on the stem, leaves, and flowers produce a painful sting. The hairs consist of a long shaft that narrows towards the point and has a small bulbous tip. The hair just below the tip is not silicified, unlike the rest of the hair, so that the tip is easily broken. A fine hollow shaft remains that can puncture the skin, through which secretions can enter (Mitchell and Rook 1979).

**Toxic parts:**

hairs

**References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

**Notes on Toxic plant chemicals:**

The stinging hairs of stinging nettle contain the compounds acetylcholine, histamine, and 5-hydroxytryptamine. Acetylcholine is found naturally in mammals and is involved in firing nerves, whereas histamine causes swelling (Mitchell and Rook 1979).

**Toxic plant chemicals:**

acetylcholine  
histamine  
5-hydroxytryptamine

**References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Dogs**

**General symptoms of poisoning:**

[death](#)  
[dyspnea](#)  
[pain](#)  
[trembling](#)  
[vomiting](#)

**Notes on poisoning:**

Hunting dogs in the United States were poisoned after massive exposure to the hairs of stinging nettle. Symptoms included trembling, pain, slobbering, dyspnea, and vomiting. Some dogs died 2-3 days after exposure without treatment (Anon. 1982).

**References:**

Anon. 1982. Stinging nettle (*Urtica* sp.) and dogs. Vet. Hum. Toxicol., 24: 247.

**Humans**

**General symptoms of poisoning:**

[erythema](#)

**References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

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|---|-------------------|--------------|---------------------------------|--------------------|
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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: stinking rabbitbrush](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Stinking rabbitbrush (*Chrysothamnus nauseosus*) is a native shrub found on rangeland in western Canada. This plant has been reported to be toxic to livestock, and some feeding experiments have supported this conclusion. However, the plant is so unpalatable that quantities sufficient to cause toxicity are not likely to be ingested (Sampson and Malmsten 1935, Kingsbury 1964, Fuller and McClintock 1986).

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Sampson, A. W., Malmsten, H. E. 1935. Stock-poisoning plants of California. Univ. Calif. Div. Agric. Sci. Bull., 593. 90 pp.

### Nomenclature:

Scientific Name: *Chrysothamnus nauseosus* (Pall.) Britt.

Vernacular name(s): stinking rabbitbrush

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Chrysothamnus nauseosus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

stinking rabbitbrush:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

This plant is considered unpalatable for livestock under most circumstances (Fuller and McClintock 1986).

### **Toxic parts:**

leaves

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Sampson, A. W., Malmsten, H. E. 1935. Stock-poisoning plants of California. Univ. Calif. Div. Agric. Sci. Bull., 593. 90 pp.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Sampson, A. W., Malmsten, H. E. 1935. Stock-poisoning plants of California. Univ. Calif. Div. Agric. Sci. Bull., 593. 90 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: stinkweed](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Stinkweed (*Thlaspi arvense*) is a naturalized herb found in fields and waste places across Canada. The plant contains sufficient quantities of glucosinolates to be toxic. During dry periods, cattle in western Canada have ingested hay containing high quantities of stinkweed. Poisoning, death and abortion occurred (Smith and Crowe 1987). See [Brassica oleracea](#) for additional notes on glucosinolate poisoning.

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Majak, W., McDiarmid, R. E., Benn, M. H., Willms, W. D. 1991. Autolysis of *Thlaspi arvense* in bovine rumen fluid. *Phytochemistry* (Oxf.), 30: 127-129.

Martin, T., Morgan, S. 1987. What caused the photosensitivity in these dairy heifers. *Vet. Med. Small Anim. Clin.*, 82: 848-851.

Smith, R. A., Crowe, S. P. 1987. Fanweed toxicosis in cattle: case history, analytical method, suggested treatment, and fanweed detoxification. *Vet. Hum. Toxicol.*, 29: 155-159.

### Nomenclature:

Scientific Name: *Thlaspi arvense* L.

Vernacular name(s): stinkweed

Scientific family name: *Cruciferae*

Vernacular family name: mustard

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Thlaspi arvense](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

stinkweed:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
seeds

### **References:**

Best, K. F., McIntyre, G. I. 1975. The biology of Canadian weeds 9.

*Thlaspi arvense* L. Can. J. Plant Sci., 55: 279-292.

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

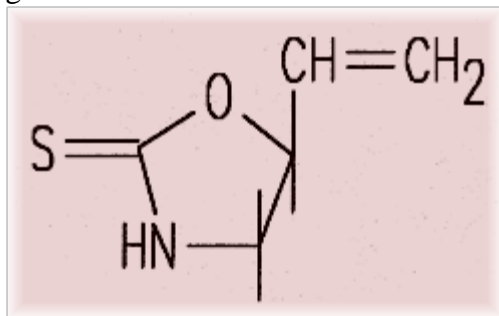
Smith, R. A., Crowe, S. P. 1987. Fanweed toxicosis in cattle: case history, analytical method, suggested treatment, and fanweed detoxification. Vet. Hum. Toxicol., 29: 155-159.

### Notes on Toxic plant chemicals:

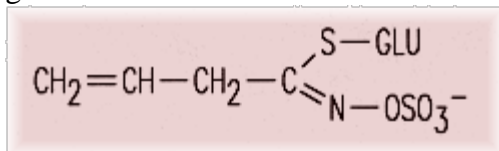
Tests of stinkweed showed that the allylthiocyanate (a glucosinolate) content is sufficient to cause sickness and death in cattle; fatalities occurred at about 65 mg/kg of body weight. The amount of this chemical varies with the stage of maturity of the plant; the highest amount is in the seeds (Smith and Crowe 1987, Majak et al. 1991).

### Toxic plant chemicals:

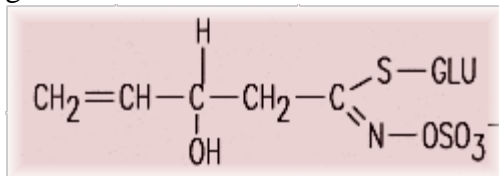
glucosinolates



glucosinolates



glucosinolates



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Best, K. F., McIntyre, G. I. 1975. The biology of Canadian weeds 9. *Thlaspi arvense* L. Can. J. Plant Sci., 55: 279-292.

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and

poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Majak, W., McDiarmid, R. E., Benn, M. H., Willms, W. D. 1991. Autolysis of *Thlapsi arvense* in bovine rumen fluid. *Phytochemistry (Oxf.)*, 30: 127-129.

Smith, R. A., Crowe, S. P. 1987. Fanweed toxicosis in cattle: case history, analytical method, suggested treatment, and fanweed detoxification. *Vet. Hum. Toxicol.*, 29: 155-159.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[abortion](#)

[colic](#)

[death](#)

[skin, peeling of](#)

#### **Notes on poisoning:**

Cattle that ingested hay containing between 25-100% stinkweed were colicky and some abortions occurred. Necropsy of cows revealed massive submucosal edema of the wall of forestomachs, particularly in the rumen. Lowering the rumen pH to 5 reportedly stops the allylthiocyanate from forming. However, more recent work found that lower pH did not significantly affect the liberation of allylthiocyanate. Administering large doses of piperazine (110 mg/kg) to rapidly reduce the concentration of toxin has been suggested. Ensiling hay containing stinkweed apparently prevented liberation of allylthiocyanate (Smith and Crowe 1987). Yield of the chemical is a function of the diet, with alfalfa herbage allowing the lowest release quantity (30%) and alfalfa hay the highest yield (72%) (Majak et al. 1991).

#### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Majak, W., McDiarmid, R. E., Benn, M. H., Willms, W. D. 1991. Autolysis of *Thlapsi arvense* in bovine rumen fluid. *Phytochemistry (Oxf.)*, 30: 127-129.

Martin, T., Morgan, S. 1987. What caused the photosensitivity in these dairy heifers. *Vet. Med. Small Anim. Clin.*, 82: 848-851.

Smith, R. A., Crowe, S. P. 1987. Fanweed toxicosis in cattle: case

history, analytical method, suggested treatment, and fanweed detoxification. Vet. Hum. Toxicol., 29: 155-159.

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## [Notes on poisoning: Sudan grass](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Sudan grass (*Sorghum sudanense*) is a cultivated forage that is planted as a late-season emergency forage crop and is either pastured or cut for green feed. Some naturalized plants are occasionally found in waste places. Sudan grass can have an HCN potential after damage to the plant. It can also accumulate toxic quantities of nitrates. These problems can be avoided by proper management. Cattle are the main livestock animals that have been poisoned. In one case in California, sheep became photosensitive after ingesting Sudan grass pasture for several days. The photodynamic pigment was not determined (Gray et al. 1968, Clay et al. 1976, Fuller and McClintock 1986).

### References:

- Clay, B. R., Edwards, W. C., Peterson, D. R. 1976. Toxic nitrate accumulation in the sorghums. *Bovine Pract.*, 11: 28-32.
- Fuller, T. C., McClintock, E. 1986. *Poisonous plants of California*. Univ. California Press, Berkeley, Calif., USA. 432 pp.
- Gray, E., Rice, J. S., Wattenbarger, D., Benson, J. A., Hester, A. J., Loyd, R. C., Greene, B. M. 1968. Hydrocyanic acid potential of *Sorghum* plants grown in Tennessee. *Tenn. Agric. Exp. Stn. Bull.*, 445. 48 pp.

### Nomenclature:

Scientific Name: *Sorghum sudanense* (Piper) Stapf

Vernacular name(s): Sudan grass

Scientific family name: *Gramineae*

Vernacular family name: grass

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Sorghum sudanense](#)

### References:

- Agriculture Quebec. 1975. *Noms des maladies des plantes du Canada/ Names of plant diseases in Canada.*, Quebec City, Que.,

Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Sudan grass:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The HCN potential is greatest in younger plants. Damage to the plant material is required for release of the volatile HCN (Gray et al. 1968).

### **Toxic parts:**

leaves  
stems

### **References:**

Clay, B. R., Edwards, W. C., Peterson, D. R. 1976. Toxic nitrate accumulation in the sorghums. Bovine Pract., 11: 28-32.

Gray, E., Rice, J. S., Wattenbarger, D., Benson, J. A., Hester, A. J.,

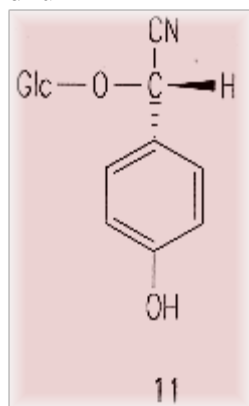
Loyd, R. C., Greene, B. M. 1968. Hydrocyanic acid potential of *Sorghum* plants grown in Tennessee. *Tenn. Agric. Exp. Stn. Bull.*, 445. 48 pp.

### Notes on Toxic plant chemicals:

Sudan grass contains a cyanogenic glycoside, dhurrin, that can release HCN after plant damage such as frost, mastication, and water stress and allows plant enzymes to alter the glycoside. If enough HCN is released into the animal's system, cyanide leads to cytotoxic hypoxia, which can result in death by asphyxiation. Nitrates can also accumulate to toxic levels in Sudan grass. A case of photosensitization occurred in sheep. A photodynamic pigment may be contained in Sudan grass (Gray et al. 1968, Clay et al. 1976, Fuller and McClintock 1986).

### Toxic plant chemicals:

dhurrin



nitrate

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Clay, B. R., Edwards, W. C., Peterson, D. R. 1976. Toxic nitrate accumulation in the sorghums. *Bovine Pract.*, 11: 28-32.

Fuller, T. C., McClintock, E. 1986. *Poisonous plants of California*. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Gray, E., Rice, J. S., Wattenbarger, D., Benson, J. A., Hester, A. J., Loyd, R. C., Greene, B. M. 1968. Hydrocyanic acid potential of *Sorghum* plants grown in Tennessee. *Tenn. Agric. Exp. Stn. Bull.*, 445. 48 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Cattle

### General symptoms of poisoning:

[abortion](#)  
[breathing, rapid](#)  
[death](#)  
[death by asphyxiation](#)  
[gait, staggering](#)  
[methemoglobinemia](#)  
[mouth, frothing of](#)

### Notes on poisoning:

The release of cyanide into the animal's system leads to cytotoxic hypoxia. In severe cases, death has resulted from asphyxiation. Other symptoms include increased breathing rate, irregular pulse, staggering, and frothing at the mouth. Nitrate poisoning causes methemoglobinemia, which can result in death. From 3-5 days after surviving acute poisoning, pregnant cows may abort (Gray et al. 1968, Clay et al. 1976).

### References:

Clay, B. R., Edwards, W. C., Peterson, D. R. 1976. Toxic nitrate accumulation in the sorghums. *Bovine Pract.*, 11: 28-32.

Gray, E., Rice, J. S., Wattenbarger, D., Benson, J. A., Hester, A. J., Loyd, R. C., Greene, B. M. 1968. Hydrocyanic acid potential of *Sorghum* plants grown in Tennessee. *Tenn. Agric. Exp. Stn. Bull.*, 445. 48 pp.

## Sheep

### General symptoms of poisoning:

[breathing, labored](#)  
[erythema](#)  
[itchiness](#)  
[nasal discharge](#)

### References:

Fuller, T. C., McClintock, E. 1986. *Poisonous plants of California*. Univ. California Press, Berkeley, Calif., USA. 432 pp.

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## [Notes on poisoning: sun spurge](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Sun spurge (*Euphorbia helioscopia*) is a naturalized herb occasionally found in southern Canada. The latex contains a strong irritant that causes burning and swelling in animals that ingest it. Sheep were poisoned and a human child died after ingesting the plant. This plant can cause irritation to livestock that ingestion it.

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Nomenclature:

Scientific Name: *Euphorbia helioscopia* L.

Vernacular name(s): sun spurge

Scientific family name: *Euphorbiaceae*

Vernacular family name: spurge

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Euphorbia helioscopia](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

sun spurge:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

latex

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Toxic plant chemicals:**

12-deoxyphorbol

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **Sheep**

## **General symptoms of poisoning:**

[abdominal pains](#)

[coma](#)

[death](#)

[diarrhea](#)

[lungs, congestion of](#)

[mouth, irritation of](#)

[salivation](#)

[vomiting](#)

## **Notes on poisoning:**

In Britain, sheep that had ingested sun spurge experienced severe swelling and inflammation of the mouth, diarrhea, and salivation. The animals recovered fully when moved to new pasture that did not contain this plant (Cooper and Johnson 1984). One of two children died after sucking the juice of sun spurge. Symptoms included burning of the mouth, esophagus, and stomach, salivation, vomiting, narrowing of the pupils, and lung edema. One child went into a coma before death (Cooper and Johnson 1984).

## **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: sunflower](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Sunflower (*Helianthus annuus*) causes allergic contact dermatitis in sensitive individuals after contact with the sesquiterpene lactones contained in fragile, multicellular, capitate glandular hairs (Hausen and Spring 1989). Cattle have been poisoned in Europe after ingesting plants that did not have mature seeds. This is a result of nitrate toxicity, which has caused sickness and death (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Hausen, B. M., Spring, O. 1989. Sunflower allergy. On the constituents of the trichomes of *Helianthus annuus* L. (Compositae). Contact Dermatitis, 20: 326-334.

### Nomenclature:

Scientific Name: *Helianthus annuus* L.

Vernacular name(s): sunflower

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Helianthus annuus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.



Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

#### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

sunflower:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

hairs

#### **References:**

Hausen, B. M., Spring, O. 1989. Sunflower allergy. On the constituents of the trichomes of *Helianthus annuus* L. (Compositae). Contact Dermatitis, 20: 326-334.

### **Notes on Toxic plant chemicals:**

Sunflower contains several sesquiterpene lactones, including the most active chemical, 1-O-methyl-4,5-dihydroniveusin A, in the hemiketal form. The complete mixture of sesquiterpene lactones contributes to the allergic response in humans. These chemicals are found in the capitate glands on sunflower leaves (Hausen and Spring 1989). Sunflowers can also accumulate toxic amounts of nitrates, which have poisoned cattle in Europe (Cooper and Johnson 1984).

### **Toxic plant chemicals:**

-dihydroniveusin A  
nitrate

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Hausen, B. M., Spring, O. 1989. Sunflower allergy. On the constituents of the trichomes of *Helianthus annuus* L. (Compositae). Contact Dermatitis, 20: 326-334.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[agitation](#)

[collapse](#)

[death](#)

[lungs, congestion of](#)

#### **Notes on poisoning:**

Cattle that ingest sunflower plants that have not formed mature seeds develop nitrate poisoning. Symptoms include circulatory failure, swaying of hind quarters, excitation, and collapse 1-3 h after ingestion. Postmortem findings include lung edema, small hemorrhages and congestion of intestinal blood vessels, and dark-colored blood (Cooper and Johnson 1984).

#### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Humans**

#### **General symptoms of poisoning:**

[eczema](#)

[erythema](#)

#### **References:**

Hausen, B. M., Spring, O. 1989. Sunflower allergy. On the constituents of the trichomes of *Helianthus annuus* L. (Compositae). Contact Dermatitis, 20: 326-334.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: sweet pea](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Sweet pea (*Lathyrus odoratus*) is a summer annual commonly cultivated because of its beautiful fragrant flowers. The pods and seeds contain BAPN (beta-aminopropionitrile), which causes osteolathyrism, a syndrome characterized by skeletal deformities and aortic rupture. This chemical was first extracted from sweet pea plants and has since been found in some other members of the genus *Lathyrus*. Horses are more susceptible to this syndrome than other livestock. Most of the information on osteolathyrism is based on experimental work. This problem has not occurred in humans; instead, see neurolathyrins under grass pea (*Lathyrus sativus*). In Canada, ingesting enough sweet pea to cause osteolathyrism is not likely (Selye 1957, Cheeke and Schull 1985).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Lalich, J. J., Barnett, B. D., Bird, H. R. 1957. Production of aortic rupture in turkey poultts fed beta-aminopropionitrile. Arch. Pathol., 64: 643-648.

Selye, H. 1957. Lathyrism. Rev. Can. Biol., 16: 1-82.

Simpson, C. F., Cardeilhac, P. T. 1983. Mortality, hemodynamics, an aortic properties among male and female turkeys fed beta-aminopropionitrile (41541). Proc. Soc. Exp. Biol. Med., 172: 168-172.

### Nomenclature:

Scientific Name: *Lathyrus odoratus* L.

Vernacular name(s): sweet pea

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lathyrus odoratus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Plant or plant parts used in or around the home.

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

sweet pea:

Images: [images.google.com](http://images.google.com)

### Toxic parts:

seeds

### References:

Roy, D. N., Spencer, P. S. 1989. Lathyrogens. Pages 169-201 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

### Toxic plant chemicals:

beta-aminopropionitrile

## References:

Roy, D. N., Spencer, P. S. 1989. Lathyragens. Pages 169-201 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Horses

#### General symptoms of poisoning:

[aneurysm](#)

[gait, rigid](#)

[scoliosis](#)

#### Notes on poisoning:

Literature reports of osteolathyrism show that horses are particularly susceptible. Symptoms include skeletal deformity, such as long bone curvature, kyphosis, scoliosis, osteoporosis, and poor development of connective tissue. Aortic rupture also occurs. These effects are due to defective synthesis of collagen and elastin tissue caused by BAPN (Cheeke and Schull 1985).

## References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### Rodents

#### General symptoms of poisoning:

[abortion](#)

[aneurysm](#)

[bones, fragile](#)

#### Notes on poisoning:

Experimental feeding of sweet pea seeds to rats has caused symptoms of osteolathyrism, including the production of fragile bones, muscle atrophy, fatty bone marrow, hernias, thin skin, and scoliosis (Selye 1957, Cheeke and Schull 1985).

## References:

Selye, H. 1957. Lathyrism. Rev. Can. Biol., 16: 1-82.

### Turkeys

#### General symptoms of poisoning:

[aneurysm](#)

**Notes on poisoning:**

Experimental feeding of the toxic chemical beta-aminopropionitrile (BAPN) caused aortic dissecting aneurysms in turkey poults. Mortality was quite high as a result. See additional information under general notes of [Lathyrus sativus](#) (Lalich et al. 1957, Simpson and Cardeilhac 1983).

**References:**

Lalich, J. J., Barnett, B. D., Bird, H. R. 1957. Production of aortic rupture in turkey poults fed beta-aminopropionitrile. Arch. Pathol., 64: 643-648.

Simpson, C. F., Cardeilhac, P. T. 1983. Mortality, hemodynamics, an aortic properties among male and female turkeys fed beta-aminopropionitrile (41541). Proc. Soc. Exp. Biol. Med., 172: 168-172.

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[Important Notices](#)



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|---|-------------------|--------------|---------------------------------|--------------------|
| <b>Français</b>                                   | <b>Contact us</b> | <b>Help</b>  | <b>Search</b>                   | <b>Canada site</b> |
| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: Swiss-cheese plant](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Swiss-cheese plant (*Monstera deliciosa*) is an indoor ornamental. The leaves can cause problems if chewed by humans or family pets. Experimental rats and mice died after they were fed plant extracts (Der Marderosian et al. 1976, Lampe and McCann 1985).

### References:

- Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.
- Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.
- Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### Nomenclature:

Scientific Name: *Monstera deliciosa* Liebm.

Vernacular name(s): Swiss-cheese plant

Scientific family name: *Araceae*

Vernacular family name: arum

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Monstera deliciosa](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.
- Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Swiss-cheese plant:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Der Marderosian, A. H., Giller, F. B., Roia, F. C. 1976. Phytochemical and toxicological screening of household ornamental plants potentially toxic to humans. 1. J. Toxicol. Environ. Health, 1: 939-953.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[aphonia](#)



[blistering](#)  
[hoarseness](#)  
[mouth, irritation of](#)  
[urticaria](#)

### **Notes on poisoning:**

Chewing the leaf causes severe pain and irritation, along with blistering and edema of mouth tissue. Hoarseness and loss of voice can also occur. The insoluble oxalates do not cause systemic poisoning in humans (Lampe and McCann 1985). Ingesting the ripened fruit can cause rapidly developing urticaria (hives) in sensitive individuals (Mitchell and Rook 1979). The ripe fruit is edible but is not normally produced indoors in Canada.

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### **Rodents**

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: tall larkspur](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Tall larkspur (*Delphinium glaucum*) is a native herb found in central and western Canada. The plant is poisonous to cattle and can be poisonous to horses and sheep when ingested in higher amounts. In an experiment with *Delphinium barbei* (not found in Canada), six times as much plant material (per kilogram of body weight) was needed to poison sheep than to poison cattle. Why cattle are sensitive to larkspur poisoning is not understood. The alkaloid methyllycaconitine causes curare-like effects on the skeletal muscles and can cause motor paralysis, followed by death from asphyxiation (Nation et al. 1982, Cheeke and Schull 1985, Olsen and Manners 1989).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Olsen, J. D., Manners, G. D. 1989. Toxicology of diterpenoid alkaloids in rangeland larkspur (*Delphinium* spp.). Pages 291-326 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### Nomenclature:

Scientific Name: *Delphinium glaucum* S. Wats.

Vernacular name(s): tall larkspur

Scientific family name: *Ranunculaceae*

Vernacular family name: crowfoot

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Delphinium glaucum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
Northwest Territories  
Ontario  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

tall larkspur:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of larkspur plants contain alkaloids. Cattle have been poisoned after browsing on the aboveground plant material. Sheep and horses have been experimentally poisoned by various larkspur species, but they are much more tolerant of the toxic alkaloids (Olsen and Manners 1989).

### **Toxic parts:**

all parts  
leaves  
seeds

## References:

Looman, J. 1984. The biological flora of Canada. 5. *Delphinium glaucum* Watson, tall larkspur. Can. Field-Nat., 98: 345-361.

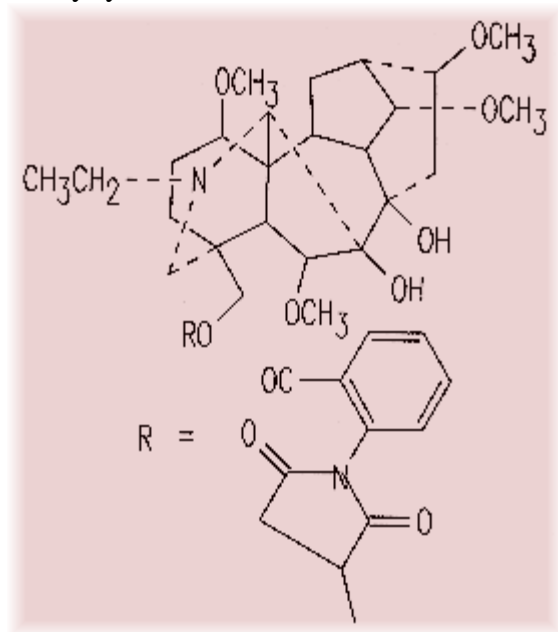
Olsen, J. D., Manners, G. D. 1989. Toxicology of diterpenoid alkaloids in rangeland larkspur (*Delphinium* spp.). Pages 291-326 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

## Notes on Toxic plant chemicals:

Methyllycaconitine, a diterpene alkaloid, is considered to be the most toxic of the alkaloids occurring in larkspurs that are likely to be grazed by cattle on rangelands. Many other alkaloids occur in larkspurs, but they are much less toxic than methyllycaconitine. The LD-50 of this chemical on mice is 3.2 mg/kg administered intravenously. It has a pronounced curare-like effect on skeletal muscle (Olsen and Manners 1989).

## Toxic plant chemicals:

methyllycaconitine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

## References:

Looman, J. 1984. The biological flora of Canada. 5. *Delphinium glaucum* Watson, tall larkspur. Can. Field-Nat., 98: 345-361.

Olsen, J. D., Manners, G. D. 1989. Toxicology of diterpenoid alkaloids in rangeland larkspur (*Delphinium* spp.). Pages 291-326 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC

Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**Horses**

**Sheep**

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[Important Notices](#)



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|---|----------------------------|-----------------------|--|-----------------------------|
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| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: tall manna grass](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Tall manna grass (*Glyceria grandis*) is a native and naturalized grass found across Canada. This plant has caused sickness and death in a herd of cattle in British Columbia. The poisoning took place early in the season, suggesting that the amount of cyanogenic potential decreases in the plant later in the season (Puls et al. 1978).

### References:

Puls, R., Newschwander, F. P., Greenway, J. A. 1978. Cyanide poisoning from *Glyceria grandis* S. Wats. ex Gray (tall mannagrass) in a British Columbia beef herd. Can. Vet. J., 19: 264-265.

### Nomenclature:

Scientific Name: *Glyceria grandis* S. Wats.

Vernacular name(s): tall manna grass

Scientific family name: *Gramineae*

Vernacular family name: grass

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Glyceria grandis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

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Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

tall manna grass:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Puls, R., Newschwander, F. P., Greenway, J. A. 1978. Cyanide poisoning from *Glyceria grandis* S. Wats. ex Gray (tall mannagrass) in a British Columbia beef herd. Can. Vet. J., 19: 264-265.

### **Notes on Toxic plant chemicals:**

An unknown cyanogenic glycoside that can be converted to cyanide in the animal body is found in tall manna grass. Cyanide in concentrations of more than 10 ppm was detected in whole blood taken from poisoned cattle (Puls et al. 1978).

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Puls, R., Newschwander, F. P., Greenway, J. A. 1978. Cyanide poisoning from *Glyceria grandis* S. Wats. ex Gray (tall mannagrass) in a British Columbia beef herd. Can. Vet. J., 19: 264-265.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[death](#)  
[gait, staggering](#)  
[liver, congestion of](#)

#### **Notes on poisoning:**

Symptoms included staggering and death. The liver was congested and lung lobes showed interlobular edema and slight emphysema. Animals that were staggering, but did not fall, recovered (Puls et al. 1978).

#### **References:**

Puls, R., Newschwander, F. P., Greenway, J. A. 1978. Cyanide poisoning from *Glyceria grandis* S. Wats. ex Gray (tall mannagrass) in a British Columbia beef herd. Can. Vet. J., 19: 264-265.

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| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: tansy](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### Nomenclature:

Scientific Name: *Tanacetum vulgare* L.

Vernacular name(s): tansy

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Tanacetum vulgare](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

British Columbia  
Nova Scotia  
Ontario  
Quebec  
Saskatchewan

## References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## Image or illustration

tansy:

Images: [images.google.com](http://images.google.com)

## Notes on Poisonous plant parts:

All parts of the plant have a strong scent and contain a bitter essential oil that can be toxic (Fuller and McClintock 1986).

## Toxic parts:

all parts

flowers

leaves

## References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: tansy ragwort](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Tansy ragwort (*Senecio jacobaea*) is a naturalized herb that is found in fields in eastern Canada and British Columbia. This plant contains pyrrolizidine alkaloids which primarily cause irreversible liver cirrhosis in animals that ingest them. This plant has poisoned cattle and horses, and possibly goats. In the late 19th century and early 20th century, the mysterious Pictou cattle disease in Nova Scotia resulted in heavy losses of cattle. Tansy ragwort ingestion was recognized as causing the problem. In the 1960s cattle losses in Oregon valued at several million dollars were attributed to tansy ragwort ingestion. This plant should be eradicated from forage and crops (Cheeke and Schull 1985, Huxtable 1989). Animals and humans may be poisoned if they drink the milk of animals that have ingested this plant (Molyneux and James 1990, Bain 1990).

### References:

- Bain, J. F. 1991. The biology of Canadian weeds. 96. *Senecio jacobaea* L. Can. J. Plant Sci., 71: 127-140.
- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.
- Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.
- Molyneux, R. J., James, L. F. 1990. Pyrrolizidine alkaloids in milk: thresholds of intoxication. Vet. Hum. Toxicol., 32: 94-103.
- Pearson, E. G. 1977. Clinical manifestations of tansy ragwort poisoning. Mod. Vet. Pract., 57: 421-424.
- Pearson, E. G. 1991. Liver failure attributable to pyrrolizidine alkaloid toxicosis and associated with inspiratory dyspnea in ponies: three cases (1982-1988). J. Am. Vet. Med. Assoc., 198: 1651-1654.
- Pethick, W. H. 1921. Pictou cattle disease. Can. Vet. Rec., 2: 13-16.

### **Nomenclature:**

Scientific Name: *Senecio jacobaea* L.

Vernacular name(s): tansy ragwort

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Senecio jacobaea](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia

New Brunswick

Newfoundland

Nova Scotia

Ontario

Prince Edward Island

Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

tansy ragwort:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of the plant contain toxic pyrrolizidine alkaloids. The flowers contain the highest concentration of the toxins. The concentration in the leaves increases to a maximum just before flower maturity (Johnson and Molyneux 1986).

### **Toxic parts:**

all parts  
flowers  
leaves  
stems

### **References:**

Johnson, A. E., Molyneux, R. J. 1986. The pyrrolizidine alkaloid free base and N-oxide content of toxic range plants. *J. Toxicol. Toxin Rev.*, 5: 256.

Pethick, W. H. 1921. Pictou cattle disease. *Can. Vet. Rec.*, 2: 13-16.

### **Notes on Toxic plant chemicals:**

Pyrrolizidine alkaloids such as jacobine and seneciphylline are found in tansy ragwort. The content of these alkaloids has been measured at a mean of 0.31% (Cheeke and Schull 1985, Johnson and Molyneux 1986).

### **Toxic plant chemicals:**

jacobine  
seneciphylline

### **References:**

Cheeke, P. R., Shull, L. R. 1985. *Natural toxicants in feeds and poisonous plants*. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Johnson, A. E., Molyneux, R. J. 1986. The pyrrolizidine alkaloid free base and N-oxide content of toxic range plants. *J. Toxicol. Toxin Rev.*, 5: 256.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

### **General symptoms of poisoning:**

[abdominal edema](#)  
[agitation](#)  
[anorexia](#)  
[diarrhea](#)  
[jaundice](#)  
[liver, cirrhosis of](#)  
[nervousness](#)

### **Notes on poisoning:**

So-called Pictou disease was identified in Pictou county, N. S., in cattle and horses; it also occurred in Prince Edward Island. For 20 years, the Canadian government ordered affected herds to be slaughtered before feeding trials confirmed, in 1906, that ingestion of tansy ragwort was responsible. The pyrrolizidine alkaloids cause irreversible liver cirrhosis, with pronounced fibrosis and biliary hyperplasia. Other symptoms include a peculiar bleached color of the hair, nervousness, incoordination, coma, and death. A rapid loss of milk production occurs in lactating cattle, and the milk may taste bitter with an unpleasant odor. Postmortem findings showed liver cirrhosis, often an enlarged gall bladder, abdominal edema, and edema in the mucosa and submucosa of the stomach and intestine (Pethick 1921, Cheeke and Schull 1985, Scimeca and Oehme 1985).

In a case in Oregon, a 3-week-old calf died. Post-mortem findings showed signs of liver cirrhosis; tansy ragwort poisoning was diagnosed. The dam did not show any signs of tansy ragwort poisoning. Milk from goats was also shown to pass the pyrrolizidine alkaloid (Pearson 1977).

### **References:**

- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- Pearson, E. G. 1977. Clinical manifestations of tansy ragwort poisoning. Mod. Vet. Pract., 57: 421-424.
- Pethick, W. H. 1921. Pictou cattle disease. Can. Vet. Rec., 2: 13-16.

### **Goats**

### **General symptoms of poisoning:**

[abdominal edema](#)  
[liver, cirrhosis of](#)

### **Notes on poisoning:**

Goats are not usually poisoned, but if they are fed tansy ragwort they produce mutagenic milk. The pyrrolizidine alkaloids are found in the milk (Huxtable 1989).

## References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Huxtable, R. J. 1989. Human health implications of pyrrolizidine alkaloids and herbs containing them. Pages 41-86 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

## Horses

### General symptoms of poisoning:

[abdominal edema](#)

[coma](#)

[death](#)

[depression](#)

[dyspnea](#)

[gait, staggering](#)

[incoordination](#)

[jaundice](#)

[liver, cirrhosis of](#)

[skin, peeling of](#)

[weight loss](#)

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Pearson, E. G. 1991. Liver failure attributable to pyrrolizidine alkaloid toxicosis and associated with inspiratory dyspnea in ponies: three cases (1982-1988). J. Am. Vet. Med. Assoc., 198: 1651-1654.

## Humans

### General symptoms of poisoning:

[liver, cirrhosis of](#)

### Notes on poisoning:

Pyrrolizidine alkaloids from tansy ragwort were found in honey produced in Oregon and Washington states. The honey is off-color and bitter and is usually not sold. The amount of toxin is so low that acute symptoms of poisoning are unlikely. However, because the effects are cumulative, long term ingestion of this honey cannot be considered safe. There are no records of toxicity from ingesting honey (Fuller and McClintock 1986).

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California.  
Univ. California Press, Berkeley, Calif., USA. 432 pp.

## **Sheep**

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## [Notes on poisoning: Tartarian honeysuckle](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Tartarian honeysuckle (*Lonicera tatarica*) is an ornamental shrub that has become naturalized throughout much of southern Canada. In European literature this plant have been implicated in the poisoning of children. See additional notes under fly honeysuckle, ([Lonicera xylosteum](#)).

### References:

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### Nomenclature:

Scientific Name: *Lonicera tatarica* L.

Vernacular name(s): Tartarian honeysuckle

Scientific family name: *Caprifoliaceae*

Vernacular family name: honeysuckle

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lonicera tatarica](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
Manitoba  
New Brunswick  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Tartarian honeysuckle:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Ingesting the berries has caused mild toxicity in children (Frohne and Pfander 1983).

### **Toxic parts:**

mature fruit

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

### **Notes on Toxic plant chemicals:**

The toxic compounds are unknown, but they are suspected to be saponins (Frohne and Pfander 1983).

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Frohne, D., Pfander, H. J. 1983. A colour atlas of poisonous plants. Wolfe Publishing Ltd., London, England. 291 pp.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Humans**

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: thin-leaved snowberry](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Thin-leaved snowberry (*Symphoricarpos albus*) is a native shrub found throughout much of Canada in woods and open slopes. The plant is also used as an ornamental shrub in many areas. The white berries contain the isoquinoline alkaloid chelidonine, as well as other alkaloids. Ingesting the berries causes mild symptoms of vomiting, dizziness, and slight sedation in children. The risk of severe poisoning does not appear great because of vomiting that occurs after ingestion. Children should be discouraged from eating the attractive white fruit (Lewis 1979, Lampe and McCann 1985).

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Lewis, W. H. 1979. Snowberry (*Symphoricarpos*) poisoning in children. J. Am. Med. Assoc., 242: 2663.

Turner, N. J., Szczawinski, A. F. 1991. Common poisonous plants and mushrooms of North America. Timber Press, Portland, Oreg., USA. 311 pp.

### Nomenclature:

Scientific Name: *Symphoricarpos albus* (L.) Blake

Vernacular name(s): thin-leaved snowberry

Scientific family name: *Caprifoliaceae*

Vernacular family name: honeysuckle

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Symphoricarpos albus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Northwest Territories  
Nova Scotia  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

thin-leaved snowberry:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

mature fruit

### **References:**

Lewis, W. H. 1979. Snowberry (*Symphoricarpos*) poisoning in children. J. Am. Med. Assoc., 242: 2663.

### **Notes on Toxic plant chemicals:**

An isoquinoline alkaloid, chelidonine, was found in the fruits of

thin-leaved snowberry. This chemical is also found in greater celandine (*Chelidonium majus*), an unrelated plant (Lewis 1979).

### **Toxic plant chemicals:**

chelidonine

### **References:**

Lewis, W. H. 1979. Snowberry (*Symphoricarpos*) poisoning in children. J. Am. Med. Assoc., 242: 2663.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

#### **General symptoms of poisoning:**

[dizziness](#)

[vomiting](#)

#### **Notes on poisoning:**

Children who ingested the attractive white fruits experienced vomiting, dizziness, and mild sedation. Blood-stained urine was also reported (Lewis 1979, Cooper and Johnson 1984).

### **References:**

Lewis, W. H. 1979. Snowberry (*Symphoricarpos*) poisoning in children. J. Am. Med. Assoc., 242: 2663.

Turner, N. J., Szczawinski, A. F. 1991. Common poisonous plants and mushrooms of North America. Timber Press, Portland, Oreg., USA. 311 pp.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: timber milk-vetch](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Timber milk-vetch (*Astragalus miser*) is a native herb that is found in southern British Columbia and southern Alberta. This plant causes acute and chronic toxicity in cattle and sheep. Experimental poisoning has been caused in other livestock. Honey bees that forage on the flowers of timber milk-vetch were also poisoned (Majak and Pass 1989).

### References:

James, L. F., Hartley, W. J., Van Kampen, K. R. 1981. Syndromes of *Astragalus* poisoning in livestock. J. Am. Vet. Med. Assoc., 178: 146-150.

Majak, W., Neufeld, R., Corner, J. 1980. Toxicity of *Astragalus miser* v. *serotinus* to the honeybee. J. Apic. Res., 19: 196-199.

Majak, W., Pass, M. A. 1989. Aliphatic nitrocompounds. Pages 143-159 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

Quinton, D. A., Majak, W., Hall, J. W. 1989. The effect of cattle grazing on the growth and miserotoxin content of Columbia milkvetch. J. Range Manage., 42: 368-371.

### Nomenclature:

Scientific Name: *Astragalus miser* Dougl. ex Hook.

Vernacular name(s): timber milk-vetch

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Astragalus miser](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

timber milk-vetch:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Timber milk-vetch contains miserotoxin. This toxic principle is found primarily in the leaves and reaches its highest concentration during the bud and mature-flower stages of growth. The levels drop rapidly when leaves dry. Herbicides bleach leaves and cause a reduction in the concentration of miserotoxin. Tests with fertilizer on range plants showed that use of urea (nitrogen at 200 kg/ha) increased the level of miserotoxin during the second year of fertilizer use on a clearcut site. Use of urea (nitrogen at 100 kg/ha) on grassland sites did not affect miserotoxin levels (Cheeke and Schull 1985; Majak and Wikeem 1986).

### **Toxic parts:**

leaves  
stems

### **References:**



Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Quinton, D. A., Majak, W., Hall, J. W. 1989. The effect of cattle grazing on the growth and miserotoxin content of Columbia milkvetch. *J. Range Manage.*, 42: 368-371.

### Notes on Toxic plant chemicals:

The glycoside (3-nitro-1-propyl-beta-D-glucopyranoside), called miserotoxin, is the poisonous principle in timber milk-vetch. Other toxic chemicals have been found including the following:

3-nitro-1-propyl-beta-D-gentiobioside (called gentitoxin)  
3-nitropropyl-beta-D-allolactoside.

Miserotoxin is rapidly hydrolysed by rumen organisms. The acute toxic effect is related to methemoglobinemia, where hemoglobin is oxidized by nitrite (Cheeke and Schull 1985, Majak et al. 1988).

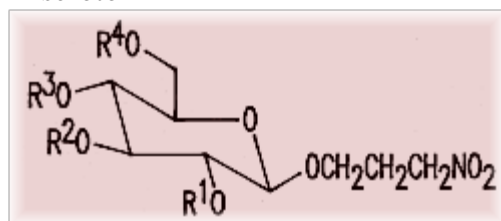
Miserotoxin is not converted to NPA (3-nitro-1-propionic acid) in the digestive tract of nonruminants. Cattle and sheep can be intoxicated by feeding the chemical NPOH (3-nitro-1-propanal) at 20-60 mg/kg of body weight. NPOH is lethal at 30-35 mg/kg in cattle when fed intravenously:

LD-50  $\approx$  77 mg/kg for oral acute toxicity in rats  
LD-50  $\approx$  25 mg/kg for chronic toxicity in rats fed twice daily for several days.

The acute and chronic syndromes were caused experimentally in rats, pigs, chicks, pigeons, rabbits, and mice (Majak and Pass 1989).

### Toxic plant chemicals:

miserotoxin



3-nitropropanol

- |   |  |
|---|--|
| 2 | $R^1 = R^2 = R^3 = R^4 = H$                  |
| 3 | $R^1 = R^2 = R^3 = H \quad R^4 = \text{Glc}$ |
| 4 | $R^1 = R^3 = R^4 = H \quad R^2 = \text{Glc}$ |
| 5 | $R^1 = R^2 = R^4 = H \quad R^3 = \text{Glc}$ |

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- James, L. F., Hartley, W. J., Van Kampen, K. R. 1981. Syndromes of *Astragalus* poisoning in livestock. J. Am. Vet. Med. Assoc., 178: 146-150.
- Majak, W., Benn, M. H., Huang, Y. Y. 1988. A new glycoside of 3-nitropropanol from *Astragalus miser* var. *serotinus*. J. Nat. Prod. (Lloydia), 51: 985-988.
- Majak, W., Pass, M. A. 1989. Aliphatic nitrocompounds. Pages 143-159 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.
- Quinton, D. A., Majak, W., Hall, J. W. 1989. The effect of cattle grazing on the growth and miserotoxin content of Columbia milkvetch. J. Range Manage., 42: 368-371.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

#### General symptoms of poisoning:

[breathing, labored](#)  
[collapse](#)  
[cyanosis](#)  
[death](#)  
[emphysema](#)  
[incoordination](#)  
[liver, congestion of](#)  
[muscle, weakness of](#)  
[weakness](#)

#### Notes on poisoning:

Cattle that have ingested timber milk-vetch can suffer from acute syndrome, in which a rapid onset with death occurs a few hours to a day after ingestion. Chronically affected animals have liver damage, emphysema, Wallerian degeneration of the spinal cord and peripheral nerves, and focal hemorrhages in the brain. Lactating animals are most susceptible to the toxin (Majak and Pass 1989).

### References:

James, L. F., Hartley, W. J., Van Kampen, K. R. 1981. Syndromes of *Astragalus* poisoning in livestock. J. Am. Vet. Med. Assoc., 178: 146-150.

Majak, W., Pass, M. A. 1989. Aliphatic nitrocompounds. Pages 143-159 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

## Honey bees

### General symptoms of poisoning:

[death](#)  
[incoordination](#)  
[weakness](#)

### Notes on poisoning:

Honey bees were poisoned after ingesting the nectar of timber milk-vetch. Sickness and death occur with 0.1-0.8% daily mortality rate of the hive population. In experiments, 2.5% miserotoxin in a 50% sugar solution killed 100% of bees within 48 h. Poisoned bees were unable to fly, and dead bees were usually seen with the wings extended and the proboscis protruding (Majak et al. 1980).

### References:

Majak, W., Neufeld, R., Corner, J. 1980. Toxicity of *Astragalus miser* v. *serotinus* to the honeybee. J. Apic. Res., 19: 196-199.

Majak, W., Pass, M. A. 1989. Aliphatic nitrocompounds. Pages 143-159 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

## Horses

## Sheep

### General symptoms of poisoning:

[breathing, labored](#)  
[cyanosis](#)  
[death](#)  
[incoordination](#)

### Notes on poisoning:

Sheep often collapse and die from acute miserotoxin poisoning after exhibiting few clinical signs. In sheep the respiratory signs of chronic poisoning are more prominent than the nervous system signs. The animals lose weight and develop respiratory distress, hind limb paresis, nasal discharge, and a roaring sound. Lactating sheep are more susceptible to intoxication than nonlactating ones (Majak and Pass 1989).

## References:

James, L. F., Hartley, W. J., Van Kampen, K. R. 1981. Syndromes of *Astragalus* poisoning in livestock. J. Am. Vet. Med. Assoc., 178: 146-150.

Majak, W., Pass, M. A. 1989. Aliphatic nitrocompounds. Pages 143-159 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

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|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: tobacco](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Tobacco (*Nicotiana tabacum*) is cultivated in some areas of Canada as a commercial crop for the tobacco industry. Teratogenic problems have occurred in the United States when pregnant swine were allowed to forage on tobacco stalks. The sows showed no toxic signs. Pregnant swine should be denied access to tobacco plants. Rare cases of human dermatitis from contact with tobacco leaves have been reported (Bush and Crowe 1989, Gonçalo et al. 1990).

### References:

Bush, L. P., Crowe, M. W. 1989. *Nicotiana* alkaloids. Pages 87-107 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

Crowe, M. W., Swerczek, T. W. 1974. Congenital arthrogryposis in offspring of sows fed tobacco (*Nicotiana tabacum*). *Am. J. Vet. Res.*, 35: 1071-1073.

Crowe, M. W. 1969. Skeletal anomalies in pigs associated with tobacco. *Mod. Vet. Pract.*, 50-13: 54-55.

Gonçalo, M., Couto, J., Gonçalo, S. 1990. Allergic contact dermatitis from *Nicotiana tabacum*. *Contact Dermatitis*, 22: 188-189.

### Nomenclature:

Scientific Name: *Nicotiana tabacum* L.

Vernacular name(s): tobacco

Scientific family name: *Solanaceae*

Vernacular family name: nightshade

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Nicotiana tabacum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que.,

Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

tobacco:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The left-over stalks of tobacco plants that remain in the field have caused teratogenic problems. Problems are related to high-yield tobacco crops where heavy fertilization produces yields of dry leaf that exceed 1300 kg/0.40 ha. Experimental feeding of aqueous filtrate of the leaves and juice of tobacco stalks has also caused teratogenic problems in swine (Crowe and Swerczek 1974).

### **Toxic parts:**

leaves  
stems

### **References:**

Crowe, M. W., Swerczek, T. W. 1974. Congenital arthrogryposis in offspring of sows fed tobacco (*Nicotiana tabacum*). Am. J. Vet.

Res., 35: 1071-1073.

### **Notes on Toxic plant chemicals:**

Pyridine alkaloids such as anabasine, anatabine, and perhaps anabasine, are responsible for teratogenic problems in swine. Anabasine is the major alkaloid of related *Nicotiana glauca*, in the southern United States, and it has caused teratogenic problems in calves, sheep, and swine. However, anabasine is found in much smaller quantities in tobacco. Anatabine and perhaps anabaseine are therefore believed to be involved in the teratogenic effects on swine (Bush and Crowe 1989).

### **Toxic plant chemicals:**

anabasine  
anatabine

### **References:**

Bush, L. P., Crowe, M. W. 1989. *Nicotiana* alkaloids. Pages 87-107 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. I. Alkaloids. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### **Humans**

#### **General symptoms of poisoning:**

[eczema](#)

#### **References:**

Gonçalo, M., Couto, J., Gonçalo, S. 1990. Allergic contact dermatitis from *Nicotiana tabacum*. *Contact Dermatitis*, 22: 188-189.

#### **Swine**

#### **General symptoms of poisoning:**

[arthrogryposis](#)

#### **Notes on poisoning:**

Pregnant sows that ingested tobacco stalks between day 10 and day 50 of gestation developed arthrogryposis, often involving all limbs of the pigs. Occasionally, vertebral column arching has occurred (Crowe 1969, Crowe and Swerczek 1974, Bush and Crowe 1989).

#### **References:**

Crowe, M. W., Swerczek, T. W. 1974. Congenital arthrogryposis in offspring of sows fed tobacco (*Nicotiana tabacum*). Am. J. Vet. Res., 35: 1071-1073.

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[Important Notices](#)





| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: tree-of-heaven](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Tree-of-heaven (*Ailanthus altissima*) is an ornamental found in the warmest parts of Canada. Exposure to the leaves may have caused dermatitis in humans and it is suspected of being a poisonous plant as well. However, convincing documentation of poisoning is lacking. The tree has been suspected of causing gastroenteritis. (Muenscher 1975, Mitchell and Rook 1979).

### References:

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

Muenscher, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

Perkins, K. D., Payne, W. W. 1978. Guide to the poisonous and irritant plants of Florida. Univ. Fla. Agric. Ext. Serv. Circ., 441. 84 pp.

### Nomenclature:

Scientific Name: *Ailanthus altissima* (Mill.) Swingle

Vernacular name(s): tree-of-heaven

Scientific family name: *Simaroubaceae*

Vernacular family name: quassia

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Ailanthus altissima](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

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### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

tree-of-heaven:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

flowers

leaves

### **References:**

Muenscher, W. C. 1975. Poisonous plants of the United States. Revised. Collier Books, New York, N.Y., USA. 277 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[erythema](#)

### **References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

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Date modified: 2009-09-01

[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: tulip](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



### **General poisoning notes:**

Tulip (*Tulipa* spp.), including *Tulipa gesneriana*, is a widely cultivated plant used as a perennial spring flower in Canada. Many species and hybrids as well as numerous cultivars of tulips may be found in Canada. Tulips contain an allergen, tuliposide A, which causes dermatitis in sensitive individuals. Poisoning of humans and dogs has also been reported when tulip bulbs mistaken for onions were ingested. The allergen tuliposide A is also found in the Peruvian lily (*Alstroemeria* spp.), and there is cross-sensitivity to onion and garlic (*Allium* spp). Tulips are not normally a problem to humans, but sensitive individuals should avoid touching the plants (Mitchell and Rook 1979, Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Marks, J. G. 1988. Allergic contact dermatitis to *Alstroemeria*. Arch. Dermatol., 124: 914-916.

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### **Nomenclature:**

Scientific Name: *Tulipa gesneriana* L.

Vernacular name(s): tulip

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Tulipa gesneriana](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

tulip:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Tulips contain an allergen that causes dermatitis in sensitive individuals. The allergen concentration is highest in the bulbs, less in the stem and leaves, and least in the flowers. The allergen decreases in the outermost leaves immediately before harvest time. Some cultivars of tulips cause less severe dermatitis than others (Mitchell and Rook 1979).

### **Toxic parts:**

bulb - dust of  
bulbs  
leaves  
stems

### **References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass

Ltd, Vancouver, B.C., Canada. 787 pp.

### **Notes on Toxic plant chemicals:**

Tuliposide A is the precursor of the sensitizing agent called alpha-methylene-gamma-butyrolactone (tulipalin A), which results from the hydrolysis of tuliposide A and the lactonization of its aglycone. This chemical causes dermatitis in sensitive individuals (Mitchell and Rook 1979).

### **Toxic plant chemicals:**

tuliposide A

### **References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Dogs**

### **Humans**

### **General symptoms of poisoning:**

[breathing, labored](#)

[eczema](#)

[erythema](#)

[nausea](#)

[salivation](#)

[sweating](#)

[vomiting](#)

[weakness](#)

### **Notes on poisoning:**

A few cases of poisoning have occurred after tulip bulbs were ingested either to supplement food or when the bulbs were mistaken for onions. Symptoms included nausea, salivation, sweating, difficult breathing, and palpitations. Weakness persisted for days and vomiting occurred (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

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[Important Notices](#)



|   |                            |                       |  |                             |
|---|----------------------------|-----------------------|--|-----------------------------|
| <a href="#">Français</a>                          | <a href="#">Contact us</a> | <a href="#">Help</a>  | <a href="#">Search</a>                   | <a href="#">Canada site</a> |
| <a href="#">Coming events</a>                     | <a href="#">About CBIF</a> | <a href="#">Links</a> | <a href="#">Reports and publications</a> | <a href="#">Home</a>        |
| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: two-grooved milk-vetch](#)

### [Introduction](#)

### [Interactive](#)

### [All poisonous plants by Botanical name](#)

### [All poisonous plants by Common name](#)

### [Important WWW Poisonous Plants sites](#)



### **General poisoning notes:**

Two-grooved milk-vetch (*Astragalus bisulcatus*) is a native plant found on rangelands in western Canada. This plant can accumulate quantities of selenium high enough to cause toxicity in cattle, horses, sheep, and swine. High quantities of selenium cause acute toxicity, with symptoms including staggering, diarrhea, prostration, and abdominal pain. Plants that contain a selenium content of less than 200 ppm cause chronic toxicity. James et al.(1983) used this plant (selenium content of 180 ppm) to conduct feeding experiments on sheep. They found that the symptoms and microscopic lesions of tissues collected from the sheep were similar to those caused by locoweed poisoning and not selenium poisoning. This finding suggests that other toxic compounds in addition to selenium may be present.

Swainsonine is also found in this plant, which may explain why, in experiments, sheep exhibited symptoms more appropriate to locoism than to selenium poisoning (Cheeke and Schull 1985).

### **References:**

Baker, D. C., James, L. F., Panter, K. E., Mayland, H. F., Pfister, J. A. 1987. Selenosis in developing pigs fed selenium from different sources. Am. Soc. Anim. Sci. Abstr., 65: 351.

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

James, L. F., Van Kampen, K. V., Hartley, W. J. 1983. *Astragalus bisulcatus*--a cause of selenium or locoweed poisoning? Vet. Hum. Toxicol., 25: 86-89.

### **Nomenclature:**

Scientific Name: *Astragalus bisulcatus* (Hook.) A. Gray

Vernacular name(s): two-grooved milk-vetch

Scientific family name: *Leguminosae*

Vernacular family name: pea



Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Astragalus bisulcatus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### Geographic Information

Alberta  
Manitoba  
Saskatchewan

### References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### Image or illustration

two-grooved milk-vetch:

Images: [images.google.com](http://images.google.com)

### Toxic parts:

flowers  
leaves  
stems

### References:

James, L. F., Van Kampen, K. V., Hartley, W. J. 1983. *Astragalus*

*bisulcatus*--a cause of selenium or locoweed poisoning? Vet. Hum. Toxicol., 25: 86-89.

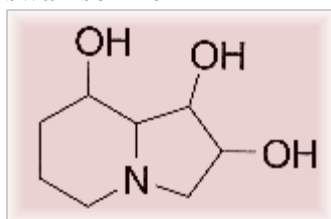
### Notes on Toxic plant chemicals:

This plant is a recognized selenium accumulator. Selenium has been found to be toxic to sheep and cattle at levels of 4-5 mg/kg of dry matter. Two-grooved milk-vetch collected in Canada contained selenium at 43 mg/kg, well above the level required for toxicity (Davis 1986).

### Toxic plant chemicals:

selenium

swainsonine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Davis, A. M. 1986. Selenium uptake in *Astragalus* and *Lupinus* species. Agron. J., 78: 727-729.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Cattle

#### Horses

#### Sheep

### General symptoms of poisoning:

[ascites](#)

[brain, vacuolation of](#)

[coat, rough and dry](#)

[cytoplasm vacuolation](#)

[depression](#)

[fetus, dead](#)

[kidney, vacuolation of](#)

## References:

James, L. F., Van Kampen, K. V., Hartley, W. J. 1983. *Astragalus bisulcatus*--a cause of selenium or locoweed poisoning? Vet. Hum. Toxicol., 25: 86-89.

## Swine

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Date modified: 2009-09-01

[Important Notices](#)



|   |                   |              |                                 |                    |
|---|-------------------|--------------|---------------------------------|--------------------|
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| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: veined dock](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Veined dock (*Rumex venosus*) is a native herb found in the southern part of the Canadian prairies. This plant caused poisoning of cattle in Colorado. Poisoning occurred in early spring when there was little other vegetation. Sickness and death resulted after large amounts of the plants were ingested (Dickie et al. 1978).

### References:

Dickie, C. W., Hamann, M. H., Carroll, W. D., Chow, F. 1978. Oxalate (*Rumex venosus*) poisoning in cattle. J. Am. Vet. Med. Assoc., 173: 73-74.

### Nomenclature:

Scientific Name: *Rumex venosus* Pursh

Vernacular name(s): veined dock

Scientific family name: *Polygonaceae*

Vernacular family name: knotweed

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rumex venosus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
Manitoba  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

veined dock:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Dickie, C. W., Hamann, M. H., Carroll, W. D., Chow, F. 1978. Oxalate (*Rumex venosus*) poisoning in cattle. J. Am. Vet. Med. Assoc., 173: 73-74.

### **Notes on Toxic plant chemicals:**

Oxalate crystals are found in the aboveground parts of the plant. Levels were measured in Colorado, showing oxalates of 9.2% in April and 13.9% in June on a dry-weight basis. If sufficient quantity of plant material is ingested the oxalates combine with systemic calcium ions to form insoluble calcium oxalate, causing functional hypocalcemia in acute cases (Dickie et al. 1978).

### **Toxic plant chemicals:**

oxalate

### **References:**

Dickie, C. W., Hamann, M. H., Carroll, W. D., Chow, F. 1978. Oxalate (*Rumex venosus*) poisoning in cattle. J. Am. Vet. Med. Assoc., 173: 73-74.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[anorexia](#)  
[depression](#)  
[kidney, edema of](#)  
[lungs, congestion of](#)

#### **Notes on poisoning:**

Several cows became ill and died after ingesting veined dock. All the cows were suckling, but none of their calves died. Symptoms included depression and anorexia. Postmortem findings showed ecchymotic and petechial hemorrhaging on the visceral and parietal peritoneum. About 2 L of thin, yellowish fluid was in the abdominal cavity. Mesenteric lymph nodes were enlarged and edematous. Other symptoms included catarrhal abomasitis, enteritis, pale kidneys, and lung congestion (Dickie et al. 1978).

#### **References:**

Dickie, C. W., Hamann, M. H., Carroll, W. D., Chow, F. 1978. Oxalate (*Rumex venosus*) poisoning in cattle. J. Am. Vet. Med. Assoc., 173: 73-74.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: velvety goldenrod](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Velvety goldenrod (*Solidago mollis*) is a native herb found in the southern prairie provinces. This plant was fed experimentally to sheep, killing them. The corrosive resins have caused weight loss in calves, sheep, and small laboratory animals. The toxin has not been determined. In the United States, some other goldenrods (*Solidago* spp.) were shown to be poisonous. The presence of a fungal rust on the plants was implicated in the poisoning (Beath et al. 1953, Kingsbury 1964).

### References:

Beath, O. A., Gilbert, C. S., Eppson, H. F., Rosenfeld, I. 1953. Poisonous plants and livestock poisoning. Wyo. Agric. Exp. Stn. Bull., 324. 94 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Solidago mollis* Bartl.

Vernacular name(s): velvety goldenrod

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Solidago mollis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
Manitoba  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

velvety goldenrod:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Beath, O. A., Gilbert, C. S., Eppson, H. F., Rosenfeld, I. 1953. Poisonous plants and livestock poisoning. Wyo. Agric. Exp. Stn. Bull., 324. 94 pp.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Beath, O. A., Gilbert, C. S., Eppson, H. F., Rosenfeld, I. 1953. Poisonous plants and livestock poisoning. Wyo. Agric. Exp. Stn. Bull., 324. 94 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the



literature (as of 1993) contained no detailed explanation.

## **Cattle**

### **General symptoms of poisoning:**

[weight loss](#)

### **Notes on poisoning:**

Administering small amounts of the resin to calves caused a loss of body weight. The same resin given to small laboratory animals caused severe weight loss (Beath et al. 1953).

### **References:**

Beath, O. A., Gilbert, C. S., Eppson, H. F., Rosenfeld, I. 1953. Poisonous plants and livestock poisoning. Wyo. Agric. Exp. Stn. Bull., 324. 94 pp.

## **Sheep**

### **General symptoms of poisoning:**

[breathing, rapid](#)

[death](#)

[nausea](#)

[vomiting](#)

### **Notes on poisoning:**

Doses of 0.45 kg of partly dried plant material given 4 h apart caused death in 12 h. Symptoms included nausea, vomiting, distress, and accelerated respiration. Small amounts of the corrosive resin caused a loss of body weight (Beath et al. 1953).

### **References:**

Beath, O. A., Gilbert, C. S., Eppson, H. F., Rosenfeld, I. 1953. Poisonous plants and livestock poisoning. Wyo. Agric. Exp. Stn. Bull., 324. 94 pp.

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[Important Notices](#)



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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: Virginia creeper](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Virginia creeper (*Parthenocissus quinquefolia*) is a native climbing vine found in eastern Canada. It is also used as an ornamental climber on trellises and building walls. Children who ingested berries and leaves have reportedly been poisoned and have died. Some authors view these reports as circumstantial. However, this plant should be considered as potentially toxic if ingested (Warren 1912, Kingsbury 1964, Fuller and McClintock 1986).

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Warren, L. E. 1912. A note on the poisonous properties of *Parthenocissus quinquefolia*. Merck's Rep., 21: 123.

### Nomenclature:

Scientific Name: *Parthenocissus quinquefolia* (L.) Planch.

Vernacular name(s): Virginia creeper

Scientific family name: *Vitaceae*

Vernacular family name: grape

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Parthenocissus quinquefolia](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

Virginia creeper:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
mature fruit

### **References:**

Warren, L. E. 1912. A note on the poisonous properties of *Parthenocissus quinquefolia*. Merck's Rep., 21: 123.

### **Notes on Toxic plant chemicals:**

Raphide crystals of calcium oxalate have been reported in the leaves and berries of Virginia creeper. Fuller and McClintock (1986) stated that the quantities are small and that the irritant effect is usually not significant.

### **Toxic plant chemicals:**

oxalate

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Warren, L. E. 1912. A note on the poisonous properties of *Parthenocissus quinquefolia*. Merck's Rep., 21: 123.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

#### **General symptoms of poisoning:**

[death](#)

[tenesmus](#)

[vomiting](#)

#### **Notes on poisoning:**

Cases have been reported of illness and death resulting after berries of Virginia creeper were ingested. In another case, two children became ill after swallowing the juice from chewed leaves. Symptoms included vomiting, purging, and tenesmus. The children collapsed and were in stupor for 2 h. A dozen ripe berries were fed to a guinea pig, which died within 36 h (Warren 1912). Modern reports view these cases as circumstantial. The amounts of oxalate contained in the plant is usually not significant (Kingsbury 1964, Fuller and McClintock 1986).

#### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Warren, L. E. 1912. A note on the poisonous properties of *Parthenocissus quinquefolia*. Merck's Rep., 21: 123.

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[Important Notices](#)



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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: western bleedingheart](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Western bleedingheart (*Dicentra formosa*) is a native herb found in the rich forests of southwestern British Columbia. The plant contains the toxic alkaloid protopine and other alkaloids. This chemical is also found in the other *Dicentra* species. Experimental injection of plant extracts has caused poisoning and death in mice (Black et al. 1930).

### References:

Black, O. F., Eggleston, W. W., Kelly, J. W. 1930. Toxicity of *Bikukulla formosa* (western bleedingheart). *Vet. J.*, 40: 917-920.

### Nomenclature:

Scientific Name: *Dicentra formosa* (Andr.) Walp.

Vernacular name(s): western bleedingheart

Scientific family name: *Fumariaceae*

Vernacular family name: frumitory

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Dicentra formosa](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

western bleedingheart:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Black, O. F., Eggleston, W. W., Kelly, J. W. 1930. Toxicity of *Bikukulla formosa* (western bleedingheart). Vet. J., 40: 917-920.

### **Toxic plant chemicals:**

protopine

### **References:**

Black, O. F., Eggleston, W. W., Kelly, J. W. 1930. Toxicity of *Bikukulla formosa* (western bleedingheart). Vet. J., 40: 917-920.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

### **Rodents**

### **General symptoms of poisoning:**

[convulsions](#)

[death](#)

[drowsiness](#)

**Notes on poisoning:**

Postmortem examination of mice showed collapsed lungs, blue extremities, and a distended heart. Death was likely due to respiratory paralysis. The lethal dose from the crude alkaloids was determined to be between 2.5 and 5.0 mg for a 20-g mouse (Black et al. 1930).

**References:**

Black, O. F., Eggleston, W. W., Kelly, J. W. 1930. Toxicity of *Bikukulla formosa* (western bleedingheart). Vet. J., 40: 917-920.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: western minniebush](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Western minniebush (*Menziesia ferruginea*) is a native shrub found in western Canada. This plant has occasionally been implicated in cases of sheep poisoning. Feeding experiments have shown that it does cause poisoning in sheep. It is considered less toxic than some other members of the heath family, such as *Kalmia* spp. and *Rhododendron* spp. (Marsh 1914, Kingsbury 1964).

### References:

- Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.
- Marsh, C. D. 1914. *Menziesia*, a new stock-poisoning plant of the northwestern states. U.S. Dep. Agric. Bur. Plant Ind., 16. 3 pp.

### Nomenclature:

Scientific Name: *Menziesia ferruginea* Sm.

Vernacular name(s): western minniebush

Scientific family name: *Ericaceae*

Vernacular family name: heath

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Menziesia ferruginea](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.
- Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.
- Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.



Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

western minniebush:

Images: [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

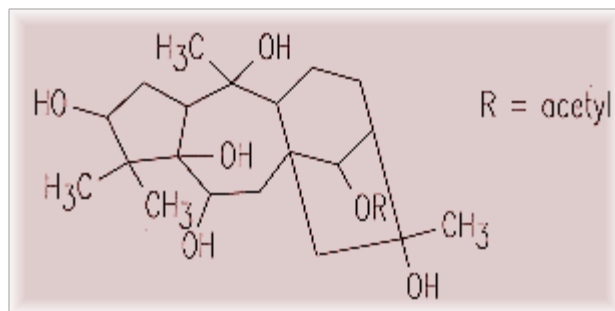
Marsh, C. D. 1914. *Menziesia*, a new stock-poisoning plant of the northwestern states. U.S. Dep. Agric. Bur. Plant Ind., 16. 3 pp.

### **Notes on Toxic plant chemicals:**

Andromedotoxins (grayanotoxins) are diterpenoid alkaloids. These toxins are common to all poisonous members of the heath family (including *Kalmia* spp. and *Rhododendron* spp.).

### **Toxic plant chemicals:**

andromedotoxins



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Sheep

#### General symptoms of poisoning:

[breathing, labored](#)  
[gait, staggering](#)  
[mouth, frothing of](#)  
[nausea](#)  
[paralysis](#)  
[salivation](#)  
[weakness](#)

### References:

Marsh, C. D. 1914. *Menziesia*, a new stock-poisoning plant of the northwestern states. U.S. Dep. Agric. Bur. Plant Ind., 16. 3 pp.

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[Important Notices](#)



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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: western poison-oak](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Western poison-oak (*Rhus diversiloba*; synonym *Toxicodendron diversiloba*) is a native shrub found in southwestern British Columbia. This plant contains urushiol, which is highly sensitizing in humans. Reactions can range from mild redness to large areas of oozing lesions and fever (Mulligan 1990, Gayer and Burnett 1988).

### References:

Epstein, W. L., Byers, V. S. 1981. Poison oak and poison ivy dermatitis. Prevention and treatment in forest service work. U.S. Dep. Agric. For. Serv. Rep., 14 pp.

Gayer, K. D., Burnett, J. W. 1988. *Toxicodendron* dermatitis. *Cutis*, 42: 99-100.

Mulligan, G. A. 1990. Poison ivy. Western poison oak. Poison sumac. *Agric. Can. Publ.*, 1699. 13 pp.

### Nomenclature:

Scientific Name: *Rhus diversiloba* T. & G.

Vernacular name(s): western poison-oak

Scientific family name: *Anacardiaceae*

Vernacular family name: cashew

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rhus diversiloba](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. *Agric. Can. Publ.*, Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. *Hortus third*. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

western poison-oak:

Images: [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of the plant, with the exception of the pollen, anthers, xylem, and epidermis, contain the allergen urushiol. Even in winter, sap from damaged stems causes allergic reactions. Similarly, damage to the root results in dermatitis (Mulligan 1990, Gayer and Burnett 1988).

### **Toxic parts:**

all parts  
flowers  
immature fruit  
leaves  
mature fruit  
plant juices  
stems

### **References:**

Epstein, W. L., Byers, V. S. 1981. Poison oak and poison ivy dermatitis. Prevention and treatment in forest service work. U.S. Dep. Agric. For. Serv. Rep., 14 pp.

Gayer, K. D., Burnett, J. W. 1988. *Toxicodendron* dermatitis. Cutis, 42: 99-100.

Mulligan, G. A. 1990. Poison ivy. Western poison oak. Poison sumac. Agric. Can. Publ., 1699. 13 pp.

### **Notes on Toxic plant chemicals:**

Urushiol, a nonvolatile phenolic allergen, includes alkylcatechols, found in all toxic *Rhus* species. Urushiol is found in the resin canals that occur throughout the plants. The toxin is exposed after damage to the plant (Gayer and Burnett 1988).

### **Toxic plant chemicals:**

urushiol oil

### **References:**

Epstein, W. L., Byers, V. S. 1981. Poison oak and poison ivy dermatitis. Prevention and treatment in forest service work. U.S. Dep. Agric. For. Serv. Rep., 14 pp.

Gayer, K. D., Burnett, J. W. 1988. *Toxicodendron* dermatitis. *Cutis*, 42: 99-100.

Schmidt, R. J., Khan, L., Chung, L. Y. 1990. Are free radicals and not quinones the haptenic species derived from urushiols and other contact allergenic mono- and dihydride alkylbenzenes? *Dermatol. Res.*, 282: 56-64.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[blistering](#)

[blisters, weeping](#)

[itchiness](#)

[temperature, elevated](#)

### **References:**

Epstein, W. L., Byers, V. S. 1981. Poison oak and poison ivy dermatitis. Prevention and treatment in forest service work. U.S. Dep. Agric. For. Serv. Rep., 14 pp.

Mulligan, G. A. 1990. Poison ivy. Western poison oak. Poison sumac. Agric. Can. Publ., 1699. 13 pp.

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| <b>Coming events</b>                              | <b>About CBIF</b> | <b>Links</b> | <b>Reports and publications</b> | <b>Home</b>        |
| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: western water-hemlock](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Western water-hemlock (*Cicuta douglasii*) is a native perennial plant found in wet soils in British Columbia. This plant is poisonous to all types of livestock and to humans. Many cases of poisoning have occurred in cattle, sheep, and horses. Pigs seem more resistant to the toxins, but they have still been poisoned. Humans have also been poisoned by this plant. Children are especially susceptible because ingestion of only one bite of the rootstock is sufficient to cause death. The onset of symptoms is so rapid that treatment may not be successful (Starrveld and Hope 1975, James and Ralphs 1986). See additional information in the general notes under [Cicuta maculata](#).

### References:

James, L. F., Ralphs, M. H. 1986. Water hemlock. Utah. Sci., 47(2): 67-69.

Panter, K. E., Keeler, R. F., Baker, D. C. 1988. Toxicoses in livestock from the hemlocks (*Conium* and *Cicuta* spp.). J. Anim. Sci., 66: 2407-2413.

Starreveld, E., Hope, C. E. 1975. Cicutoxin poisoning (water hemlock). Neurology, 25: 730-734.

### Nomenclature:

Scientific Name: *Cicuta douglasii* (DC.) Coult. & Rose

Vernacular name(s): western water-hemlock

Scientific family name: *Umbelliferae*

Vernacular family name: parsley

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Cicuta douglasii](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

western water-hemlock:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

The toxins are concentrated in the chambered rootstock but also occur in the leaves and stems as well (James and Ralphs 1986).

### **Toxic parts:**

leaves  
roots  
young shoots

### **References:**

James, L. F., Ralphs, M. H. 1986. Water hemlock. Utah. Sci., 47(2): 67-69.

### **Notes on Toxic plant chemicals:**

Cicutoxin is a highly unsaturated alcohol that is very toxic. The following dosages have been found:



| Lethal dose (fresh green plant material) | Animal |
|--|--------|
| 0.1 kg                                   | sheep  |
| 0.4 kg                                   | cattle |
| 0.3 kg                                   | horse  |

Pigs appear to be more resistant to poisoning than other livestock. Adult humans can be poisoned and can die with only two or three bites of the rootstock (Starrveld and Hope 1975, James and Ralphs 1986).

### Toxic plant chemicals:

cicutoxin

### References:

James, L. F., Ralphs, M. H. 1986. Water hemlock. Utah. Sci., 47(2): 67-69.

Starreveld, E., Hope, C. E. 1975. Cicutoxin poisoning (water hemlock). Neurology, 25: 730-734.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

#### General symptoms of poisoning:

[bloat](#)  
[coma](#)  
[convulsions](#)  
[death by asphyxiation](#)  
[lesions, no specific](#)  
[muscle spasms](#)  
[muscle twitching](#)  
[nervousness](#)  
[salivation](#)

#### Notes on poisoning:

Symptoms of poisoning are similar to all classes of livestock. See the information in general notes under [Cicuta maculata](#).

### References:

James, L. F., Ralphs, M. H. 1986. Water hemlock. Utah. Sci., 47(2): 67-69.

## Horses

### General symptoms of poisoning:

[bloat](#)  
[coma](#)  
[convulsions](#)  
[death by asphyxiation](#)  
[lesions, no specific](#)  
[muscle spasms](#)  
[muscle twitching](#)  
[nervousness](#)  
[salivation](#)  
[teeth grinding](#)

### References:

James, L. F., Ralphs, M. H. 1986. Water hemlock. Utah. Sci., 47(2): 67-69.

## Humans

### General symptoms of poisoning:

[coma](#)

### Notes on poisoning:

Toxicity and death in humans is possible with all three species of the genus *Cicuta* (water-hemlock). See the information in the general notes under [Cicuta maculata](#).

### References:

Starreveld, E., Hope, C. E. 1975. Cicutoxin poisoning (water hemlock). Neurology, 25: 730-734.

## Sheep

### General symptoms of poisoning:

[bloat](#)  
[coma](#)  
[convulsions](#)  
[death](#)  
[death by asphyxiation](#)  
[gait, unsteady](#)  
[incoordination](#)  
[lesions, no specific](#)  
[mouth, frothing of](#)  
[muscle spasms](#)  
[muscle twitching](#)  
[nervousness](#)  
[salivation](#)  
[tarsal joint knuckling](#)

[teeth grinding](#)  
[trembling](#)  
[urination, frequent](#)

**References:**

James, L. F., Ralphs, M. H. 1986. Water hemlock. Utah. Sci., 47(2): 67-69.

Panter, K. E., Keeler, R. F., Baker, D. C. 1988. Toxicoses in livestock from the hemlocks (*Conium* and *Cicuta* spp.). J. Anim. Sci., 66: 2407-2413.

**Swine**

**General symptoms of poisoning:**

[coma](#)  
[convulsions](#)  
[death by asphyxiation](#)  
[muscle spasms](#)  
[muscle twitching](#)  
[nervousness](#)  
[salivation](#)

**References:**

James, L. F., Ralphs, M. H. 1986. Water hemlock. Utah. Sci., 47(2): 67-69.

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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: white camas](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

White camas (*Zigadenus elegans*) is a native perennial herb that grows from a bulb. The plant can be found across most of Canada from British Columbia to New Brunswick and in parts of northwestern Canada. The plant contains several steroidal alkaloids, including zygacine, which can poison livestock and humans. White camas has caused poisoning in sheep and may have been involved in poisoning cattle. Ingesting the bulbs can also cause poisoning. This plant is considered to be about seven times less toxic than death camas (*Zigadenus venenosus*). Poisoning is most common in early spring because this plant often is available before other forage is plentiful (Kingsbury 1964, Panter and James 1989).

### References:

- Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.
- Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.
- Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.
- Panter, K. E., James, L. F. 1989. Death camas-early grazing can be hazardous. Rangelands, 11: 147-149.

### Nomenclature:

Scientific Name: *Zigadenus elegans* Pursh

Vernacular name(s): white camas

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Zigadenus elegans](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Northwest Territories  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

white camas:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of the plant are toxic. The early leaves are the most common cause of poisoning because the plants grow early, before other forage is plentiful. The bulbs may be pulled up and ingested if the ground is wet (Cheeke and Schull 1985, Panter and James 1989).

### **Toxic parts:**

all parts  
bulbs  
flowers  
leaves

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

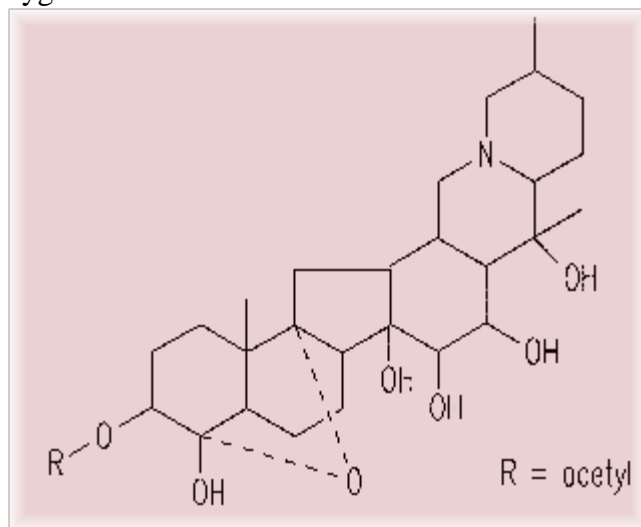
Panter, K. E., James, L. F. 1989. Death camas-early grazing can be hazardous. Rangelands, 11: 147-149.

**Notes on Toxic plant chemicals:**

A steroidal alkaloid, zygacine, is one of several alkaloids contained in death camas. The lethal dose is estimated at between 2.0-6.0% of animal body weight. This plant is considered to be less toxic than death camas, *Zigadenus venenosus* (Kingsbury 1964).

**Toxic plant chemicals:**

zygacine



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## **Cattle**

## **Horses**

## **Humans**

### **General symptoms of poisoning:**

[blood pressure, low](#)

[coma](#)

[dizziness](#)

[heart rate, slow](#)

### **Notes on poisoning:**

Ingesting the bulbs, mistaken for onions, can cause poisoning in humans, even though this species is considered less toxic than death camas (*Zigadenus venenosus*).

### **References:**

Fuller, T. C., McClintock, E. 1986. Poisonous plants of California. Univ. California Press, Berkeley, Calif., USA. 432 pp.

## **Sheep**

### **General symptoms of poisoning:**

[ataxia](#)

[breathing, rapid](#)

[coma](#)

[death](#)

[death](#)

[mouth, frothing of](#)

[nasal discharge](#)

[nausea](#)

[salivation](#)

[urination, frequent](#)

[vomiting](#)

### **Notes on poisoning:**

Symptoms of poisoning are similar for all species of animals. Symptoms in sheep include excessive salivation, froth around the nose and mouth, nausea, vomiting, muscular weakness, ataxia, possible coma, and death. The heart fails before respiration. Postmortem findings reveal the heart in complete diastole. Lesions include severe pulmonary congestion, hemorrhage, and edema. One-time loss of sheep has been reported as 500 head in some species of *Zigadenus* (Cheeke and Schull 1985, Panter and James 1989).

## References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Panter, K. E., James, L. F. 1989. Death camas-early grazing can be hazardous. Rangelands, 11: 147-149.

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[Important Notices](#)





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| <b>Canadian Biodiversity Information Facility</b> |                            |                       |  |                             |



## [Notes on poisoning: white clover](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### **General poisoning notes:**

White clover (*Trifolium repens*) is widely cultivated across Canada and has also become naturalized throughout much of the country. Under certain circumstances this valuable plant can cause problems in animals. White clover can cause bloat in livestock. It has caused laminitis in horses and cattle. After they are ingested, some varieties can liberate HCN, causing cyanogenic poisoning in animals. White clover is also reported to become estrogenic if infected with various fungi (Cooper and Johnson 1984, Cheeke and Schull 1985).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

Hall, J. W., Majak, W. 1989. Plant and animal factors in legume bloat. Pages 93-106 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

### **Nomenclature:**

Scientific Name: *Trifolium repens* L.

Vernacular name(s): white clover

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Trifolium repens](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

white clover:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

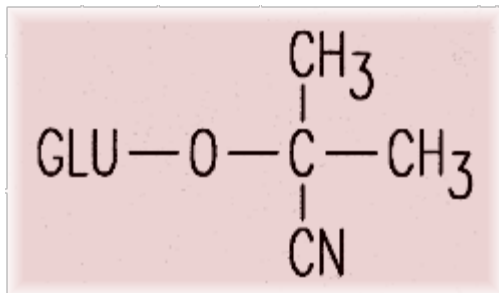
### **Notes on Toxic plant chemicals:**

Two cyanogenic glycosides, linamarin and lotaustralin, are found in

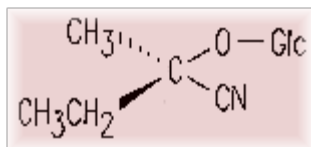
white clover. In young leaves, the cyanogen levels may reach 350 mg of HCN per 100 g of tissue, with lotaustralin predominating. Cyanogenesis is controlled by two independently inherited genes in white clover. Only plants possessing at least one dominant functional allele of both genes liberate HCN when damaged. Some cultivars are capable of liberating HCN and others are not (Poultan 1989).

### Toxic plant chemicals:

linamarin



lotaustralin



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Poultan, J. E. 1983. Cyanogenic compounds in plants and their toxic effects. Pages 117-157 in Keeler, R. F., Tu, A. T., eds. Handbook of natural toxins. Vol. 1. Plant and Fungal toxins. Marcel Dekker, Inc., New York, N.Y., USA. 934 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Cattle

#### General symptoms of poisoning:

[bloat](#)

### References:

Hall, J. W., Majak, W. 1989. Plant and animal factors in legume bloat. Pages 93-106 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

## Horses

### General symptoms of poisoning:

[laminitis](#)

### Notes on poisoning:

Laminitis is characterized by tenderness, swelling, and inflammation around the hooves. In Britain severe laminitis has been reported in cattle as well (Cooper and Johnson 1984).

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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## [Notes on poisoning: white oak](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

White oak (*Quercus alba*) is a native tree found in southern Quebec and Ontario. Ingesting the leaves and acorns has caused some toxic problems in cattle. The concentration of toxic phenolics is less than in red or black oak (*Q. rubra* or *Q. velutina*). Symptoms are similar for all three species of oak. In severe cases, renal failure usually results in death (Sandusky et al. 1977, Cockrill and Beasley 1979).

### References:

Cockrill, J. M., Beasley, J. N. 1979. Renal damage to cattle during acorn poisoning. *Vet. Med. Small Anim. Clin.*, 74: 82, 84-85.

Sandusky, G. E., Fosnaugh, C. J., Smith, J. B., Mohan, R. 1977. Oak poisoning of cattle in Ohio. *J. Am. Vet. Med. Assoc.*, 171: 627-629.

### Nomenclature:

Scientific Name: *Quercus alba* L.

Vernacular name(s): white oak

Scientific family name: *Fagaceae*

Vernacular family name: beech

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Quercus alba](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

white oak:

Images: [images.google.com](http://images.google.com)

### **Toxic parts:**

acorns  
leaves

### **References:**

Sandusky, G. E., Fosnaugh, C. J., Smith, J. B., Mohan, R. 1977. Oak poisoning of cattle in Ohio. J. Am. Vet. Med. Assoc., 171: 627-629.

### **Notes on Toxic plant chemicals:**

See notes under chemicals in red oak ( [Quercus rubra](#) ).

### **Toxic plant chemicals:**

gallic acid  
pyrogallol  
tannic acid

### **References:**

Basden, K. W., Dalvi, R. R. 1987. Determination of total phenolics in acorns from different species of oak trees in conjunction with acorn poisoning in cattle. Vet. Hum. Toxicol., 29: 305-306.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[anorexia](#)

[ascites](#)

[death](#)

[dehydration](#)

[depression](#)

[diarrhea](#)

[kidney failure](#)

#### **Notes on poisoning:**

Toxic symptoms include anorexia, rumen atony, hemorrhagic diarrhea, subcutaneous edema, ascites, and dehydration. Renal failure usually results in death. Postmortem examination revealed perirenal edema and hemorrhage. The kidneys had a characteristic nephrosis in a multifocal pattern, of the proximal convoluted tubules (Sandusky et al. 1977, Cockrill and Beasley 1979).

#### **References:**

Cockrill, J. M., Beasley, J. N. 1979. Renal damage to cattle during acorn poisoning. *Vet. Med. Small Anim. Clin.*, 74: 82, 84-85.

Sandusky, G. E., Fosnaugh, C. J., Smith, J. B., Mohan, R. 1977. Oak poisoning of cattle in Ohio. *J. Am. Vet. Med. Assoc.*, 171: 627-629.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: white rose-bay](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

White rose-bay (*Rhododendron albiflorum*) is a native shrub found in southwestern British Columbia. This plant is toxic to sheep, although rare cases of cattle poisoning may occur. The plant contains andromedotoxins (grayanotoxins) that can cause sickness and death after they are ingested by animals (Kingsbury 1964, Looman et al. 1983).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Looman, J., Majak, W., Smoliak, S. 1983. Stock-poisoning plants of western Canada. Agric. Can. Res. Branch Contrib. 1982-7E. 35 pp.

### Nomenclature:

Scientific Name: *Rhododendron albiflorum* Lam.

Vernacular name(s): white rose-bay

Scientific family name: *Ericaceae*

Vernacular family name: heath

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Rhododendron albiflorum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.



Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

white rose-bay:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

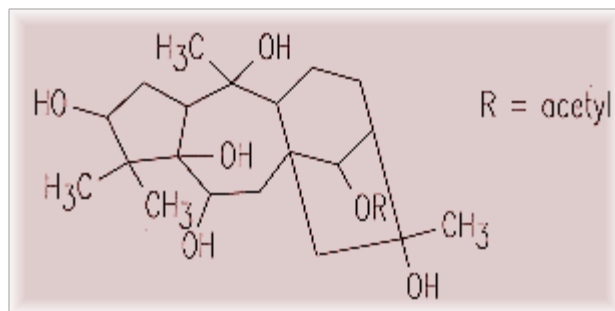
Looman, J., Majak, W., Smoliak, S. 1983. Stock-poisoning plants of western Canada. Agric. Can. Res. Branch Contrib. 1982-7E. 35 pp.

### **Notes on Toxic plant chemicals:**

Andromedotoxins (including grayanotoxin I) are toxic diterpenoids that are present in all the poisonous members of the heath family, Ericaceae (Cooper and Johnson 1984).

### **Toxic plant chemicals:**

andromedotoxins



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

#### General symptoms of poisoning:

[anorexia](#)

[death](#)

[nasal discharge](#)

[salivation](#)

[vomiting](#)

[weakness](#)

#### Notes on poisoning:

Cattle are not poisoned as often as sheep because of the bitter taste of the leaves. Symptoms of ingestion may include initial anorexia, salivation, and dullness. Vomiting may be accompanied by bloat. Abdominal pain and nasal discharge occur. In severe cases, death may result (Kingsbury 1964).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Sheep

#### General symptoms of poisoning:

[convulsions](#)

[death](#)

[nasal discharge](#)

[paralysis](#)  
[salivation](#)

**Notes on poisoning:**

The palatability of the leaves is low. However, ingesting the leaves causes symptoms, including salivation, nasal discharge, convulsions, paralysis of the limbs, and weakness. In severe cases, death can occur after a period of coma (Looman et al. 1983).

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Looman, J., Majak, W., Smoliak, S. 1983. Stock-poisoning plants of western Canada. Agric. Can. Res. Branch Contrib. 1982-7E. 35 pp.

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Date modified: 2009-09-01

[Important Notices](#)



| Français                                   | Contact us | Help  | Search                   | Canada site |
|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: white snakeroot](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

White snakeroot (*Eupatorium rugosum*) is a native herb that grows in rich soils in eastern Canada. This plant has caused illness and death of humans and several types of livestock. Large losses of human life occurred in the 19th century from the mysterious milk sickness. Mortality ranged from 10 to 25%, and the population of entire villages left a location because they could not find the cause of the disease. It was later discovered that cattle had ingested white snakeroot and that a toxin was subsequently passed through the milk to humans and was toxic. With modern collection and combination techniques, milk sickness from commercial milk sources is no longer a problem. However, the resurgence of small-scale farming and home milk production may result in occasional cases of milk sickness (Kingsbury 1964, Stotts 1984, Cheeke and Schull 1985, Beier and Norman 1990).

Several types of herbivorous livestock have also been poisoned by ingesting white snakeroot, resulting in a disease called trembles. Cattle, goats, horses, sheep, and swine have shown toxic reactions. Suckling animals can develop milk sickness as well. Trembles was more of a problem in the past, before the increased use of herbicides and prepared feeds. Poisoning was also more frequent when animals were allowed to range through bushlots. The amount of white snakeroot that must be ingested before death is variable, ranging from 1 to 20%. Symptoms can occur within a few days or up to 3 weeks later. Daily intake rates of 0.5-1.5% of body weight generally leads to the onset of symptoms. Drying the plant material does not completely remove the danger to animals (Doyle and Walkley 1949, Kingsbury 1964, Cheeke and Schull 1985, Beier and Norman 1990).

Additional care must be taken with milk from cattle or goats that may have ingested white snakeroot. Many articles state that a lactating animal does not always show symptoms. However, milk from that animal can still cause milk sickness. Calves, humans, and cats have been poisoned in such cases. Dogs given the milk are also at risk. Experimental work has shown that trembles can occur in rabbits and guinea pigs. White snakeroot grows in rich moist open woods and along water courses. Animals should not be allowed to graze this plant.

### References:

Beier, R. C., Norman, J. O. 1990. The toxic factor in white snakeroot: identity, analysis and prevention. *Vet. Hum. Toxicol.*, 32: 81-88.

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Couch, J. F. 1927. The toxic constituent of richweed or white snakeroot (*Eupatorium urticaefolium*). *J. Agric. Res.*, 35: 547-576.

Doyle, L. P., Walkey, F. L. 1949. White snakeroot (*Eupatorium urticaefolium*) poisoning in livestock. *Purdue Univ. Agric. Exp. Stn. Bull.*, 270. 14 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Olson, C. T., Keller, W. C., Gerken, D. F., Reed, S. M. 1984. Suspected tremetol poisoning in horses. *J. Am. Vet. Med. Assoc.*, 185: 1001-1003.

Stotts, R. 1984. White snakeroot toxicity in dairy cattle. *Vet. Med. Small Anim. Clin.*, 79: 118-120.

### **Nomenclature:**

Scientific Name: *Eupatorium rugosum* Houtt.

Vernacular name(s): white snakeroot

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Eupatorium rugosum](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. *Agric. Can. Publ.*, Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. *Hortus* third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. *Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot.* 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

white snakeroot:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Doyle, L. P., Walkey, F. L. 1949. White snakeroot (*Eupatorium urticaefolium*) poisoning in livestock. Purdue Univ. Agric. Exp. Stn. Bull., 270. 14 pp.

Kaufmann, G. W. 1982. Seasonal variation of tremetol concentrations found in white snakeroot, *Eupatorium rugosum* Houtt (Compositae). Proc. Iowa Acad. Sci., 89: 151-152.

Olson, C. T., Keller, W. C., Gerken, D. F., Reed, S. M. 1984. Suspected tremetol poisoning in horses. J. Am. Vet. Med. Assoc., 185: 1001-1003.

### **Notes on Toxic plant chemicals:**

Tremetol is a secondary aromatic alcohol with a sterol and ketone fraction. One of these ketones, tremetone, has been tested on chickens, with negative results, but was toxic to goldfish in experimental studies. In Iowa the concentration of tremetol was found to be highest during the summer (Kaufmann 1982).

### **Toxic plant chemicals:**

tremetol

### **References:**

Couch, J. F. 1927. The toxic constituent of richweed or white snakeroot (*Eupatorium urticaefolium*). J. Agric. Res., 35: 547-576.

Kaufmann, G. W. 1982. Seasonal variation of tremetol concentrations found in white snakeroot, *Eupatorium rugosum* Houtt (Compositae). Proc. Iowa Acad. Sci., 89: 151-152.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[appetite, loss of](#)

[ataxia](#)

[brain, congestion of](#)

[breathing, rapid](#)

[coma](#)

[constipation](#)

[death](#)

[depression](#)

[gait, unsteady](#)

[lungs, congestion of](#)

[nasal discharge](#)

[nausea](#)

[prostration](#)

[recumbency](#)

[trembling](#)

[urine, yellowish](#)

[vomiting](#)

[weakness](#)

### **References:**

Doyle, L. P., Walkey, F. L. 1949. White snakeroot (*Eupatorium urticaefolium*) poisoning in livestock. Purdue Univ. Agric. Exp. Stn. Bull., 270. 14 pp.

Stotts, R. 1984. White snakeroot toxicity in dairy cattle. Vet. Med. Small Anim. Clin., 79: 118-120.

### **Dogs**

### **Goats**

### **Horses**

### **General symptoms of poisoning:**

[breathing, labored](#)  
[breathing, rapid](#)  
[breathing, shallow](#)  
[constipation](#)  
[death](#)  
[depression](#)  
[gait, rigid](#)  
[lungs, congestion of](#)  
[nasal discharge](#)  
[prostration](#)  
[pupil dilation](#)  
[recumbency](#)  
[sweating](#)  
[trembling](#)

### **References:**

Doyle, L. P., Walkey, F. L. 1949. White snakeroot (*Eupatorium urticaefolium*) poisoning in livestock. Purdue Univ. Agric. Exp. Stn. Bull., 270. 14 pp.

Olson, C. T., Keller, W. C., Gerken, D. F., Reed, S. M. 1984. Suspected tremetol poisoning in horses. J. Am. Vet. Med. Assoc., 185: 1001-1003.

### **Humans**

### **Rabbits**

### **Sheep**

### **General symptoms of poisoning:**

[acidosis](#)  
[death](#)  
[nervousness](#)  
[trembling](#)

### **References:**

Couch, J. F. 1927. The toxic constituent of richweed or white snakeroot (*Eupatorium urticaefolium*). J. Agric. Res., 35: 547-576.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: white sweet-clover](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

White sweet-clover (*Melilotus alba*) is a cultivated and naturalized plant that occurs as a weed across most of Canada. This plant contains a glycoside with a coumarin fraction. When sweet-clover is harvested for feed, the succulent stems usually mold before drying. The molds metabolize the glycoside into dicoumarol, which interrupts vitamin K activation of prothrombin, necessary in blood clotting. Levels of dicoumarol at more than 10 ppm are suspected of possible poisoning. Dicoumarol levels are usually higher in small and round bales than in stacks. Cattle, horses, and sheep have been poisoned. However, cattle are almost exclusively poisoned by sweet-clover (Blakely 1985, Cheeke and Schull 1985).

### References:

Alstad, A. D., Casper, H. H., Johnson, L. J. 1985. Vitamin K treatment of sweet clover poisoning in calves. J. Am. Vet. Med. Assoc., 187: 729-731.

Blakley, B. R. 1985. Moldy sweet clover (dicoumarol) poisoning in Saskatchewan cattle. Can. Vet. J., 26: 357-360.

McDonald, G. K. 1980. Moldy sweetclover poisoning in a horse. Can. Vet. J., 21: 250-251.

Radostits, O. M., Searcy, G. P., Mitchall, K. G. 1980. Moldy sweetclover poisoning in cattle. Can. Vet. J., 21: 155-158.

Turkington, R. A., Cavers, P. B., Rempel, E. 1978. The biology of Canadian weeds. 29. *Melilotus alba* Desr. and *M. officinalis* (L.) Lam. Can. J. Plant Sci., 58: 523-537.

### Nomenclature:

Scientific Name: *Melilotus alba* Desr.

Vernacular name(s): white sweet-clover

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Melilotus alba](#)

## References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

## Geographic Information

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

## References:

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

## Image or illustration

white sweet-clover:

Images: [images.google.com](http://images.google.com)

## Notes on Poisonous plant parts:

Moldy sweet-clover is produced through insufficient drying of bales and silage. Dicoumarol production by molds is not likely to occur if animals ingest living plants.

**Toxic parts:**

leaves  
stems

**References:**

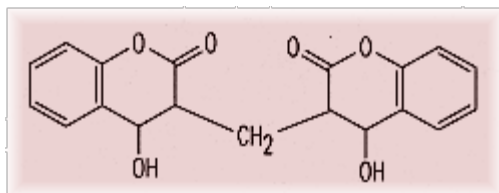
Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

**Notes on Toxic plant chemicals:**

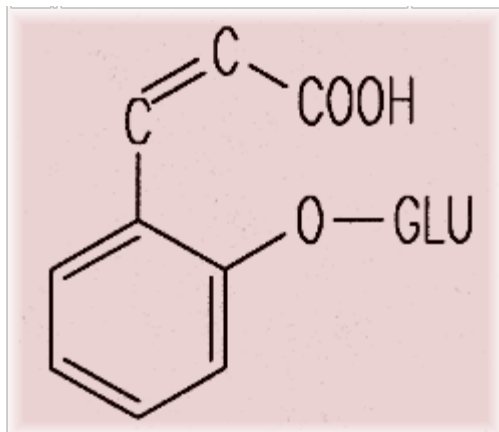
A glycoside, melilotoside, contains an ether and coumarin. The coumarin is metabolized by various molds (e.g., *Penicillium* spp.) into dicoumarol. Dicoumarol inhibits vitamin K, which causes hemorrhaging. Sweet-clover has a succulent stem, which makes molding common after cutting. Round bales have been found to have significantly higher dicoumarol (mean of 22.9 +/- 3.10 mg/kg) than stacks of silage (means 1.8 of +/- 6.3 and 0.6 +/- 2.1 mg/kg). The outer parts of round bales had a higher concentration of dicoumarol (Benson et al. 1981, Cheeke and Schull 1985).

**Toxic plant chemicals:**

dicoumarol



melilotoside



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

## References:

Benson, M. E., Casper, H. H., Johnson, L. J. 1981. Occurrence and range of dicumarol concentrations in sweet clover. *Am. J. Vet. Res.*, 42: 2014-2015.

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

## Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Cattle

### General symptoms of poisoning:

[abortion](#)

[anemia](#)

[heart rate, elevated](#)

[hemorrhage](#)

### Notes on poisoning:

Symptoms of moldy sweet-clover poisoning may appear without any obvious cause. Trauma and surgery are often followed by severe hemorrhage and death. Hemorrhage may result after uncomplicated parturition. Newborn calves may die during the first few days of life if their dams have been fed on toxic feed. In Saskatchewan 286 animals from 56 herds were affected in 1983. The mortality rate was 12.1%. Aborted fetuses and calves less than 2 weeks old were affected most often. Poisoning usually occurred between January to April. Sweet-clover fed as bales was more of a problem than when fed as silage (Radostits et al. 1980, Blakely 1985). Treatment using vitamin K1 was effective at dosages of 1.1-3.3 mg/kg of body weight after poisoning by sweet-clover containing dicoumarol at a minimum of 90 ppm. Vitamin K3 was ineffective as treatment (Alstad et al. 1985).

## References:

Alstad, A. D., Casper, H. H., Johnson, L. J. 1985. Vitamin K treatment of sweet clover poisoning in calves. *J. Am. Vet. Med. Assoc.*, 187: 729-731.

Blakley, B. R. 1985. Moldy sweet clover (dicoumarol) poisoning in Saskatchewan cattle. *Can. Vet. J.*, 26: 357-360.

Radostits, O. M., Searcy, G. P., Mitchall, K. G. 1980. Moldy sweetclover poisoning in cattle. *Can. Vet. J.*, 21: 155-158.

## Horses

## **General symptoms of poisoning:**

[anemia](#)

[hemorrhage](#)

## **Notes on poisoning:**

In one case in Saskatchewan, a Percheron mare was anemic and was hemorrhaging from the left nostril at 60 drops per min. Mucous membranes were blanched. Subcutaneous edema extended from the intermandibular space to the pectoral region. The animal was treated with an injection of 4.2 g of menadione sodium bisulphate and with 4 L of whole blood preserved in acid citrate dextrose solution. Complete recovery resulted. The mare had been fed weathered sweet-clover hay free-choice with access to pasture (McDonald 1980).

## **References:**

McDonald, G. K. 1980. Moldy sweetclover poisoning in a horse. Can. Vet. J., 21: 250-251.

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|--|------------|-------|--------------------------|-------------|
| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: wild cabbage](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

*Brassica oleracea* includes common cultivated crops such as kale, broccoli, Brussels sprouts, and cabbage. All these vegetables are capable of forming toxic quantities of SMCO, a chemical that can cause hemolytic anemia in livestock. These plants also contain glucosinolates, which can cause goiter. In general, these widely used vegetables are safe for human consumption. Cases of livestock poisoning occur when they are used almost exclusively as fodder for animals (Kingsbury 1964, Smith 1980, Cheeke and Schull 1985, Benevenga et al. 1989). Glucosinolates contained in kale, cabbage, and broccoli (*Brassica oleracea*) can cause goiter in humans. These plants cause goiter in less than 5% of cases in humans. The chemicals cause a reduction in performance of young livestock, especially swine and poultry (Fenwick et al. 1989). It is important to note that the frequency of toxicity has dropped dramatically since a few decades ago. Researchers have changed the quantity of toxic compounds in the entire *Brassica* spp., creating new cultivars with lower quantities of these chemicals. The threat of poisoning from some of the plants has diminished or virtually disappeared in some cultivars. For example, the Canadian development of rapeseed into the so-called "double-zero" cultivars (low in glucosinolates and in erucic acid) has allowed rapeseed meal to be used for livestock at much higher levels without reducing performance (Cheeke and Schull 1985).

### References:

Benevenga, N. J., Case, G. L., Steele, R. D. 1989. Occurrence and metabolism of s-methyl-l-cysteine and s-methyl-l-cysteine sulfoxide in plants and their toxicity and metabolism in animals. Pages 203-228 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Fenwick, G. R., Heaney, R. K., Mawson, R. 1989. Glucosinolates. Pages 1-41 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Smith, R. H. 1980. Kale poisoning: the brassica anemia factor. Vet. Rec., 107: 12-15.

**Nomenclature:**

Scientific Name: *Brassica oleracea* L.

Vernacular name(s): wild cabbage

Scientific family name: *Cruciferae*

Vernacular family name: mustard

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Brassica oleracea](#)

**References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

**Geographic Information**

Newfoundland

Ontario

Prince Edward Island

Quebec

**References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646;

989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

wild cabbage:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

SMCO is most abundant in young leaves and growing points. Brussels sprouts can have high amounts of the chemical, as can the flowering parts of the plants. The most drastic hemolytic anemia occurs when these plants form exclusive fodder for livestock (Smith 1980).

### **Toxic parts:**

all parts  
flowers  
leaves

### **References:**

Smith, R. H. 1980. Kale poisoning: the brassica anemia factor. *Vet. Rec.*, 107: 12-15.

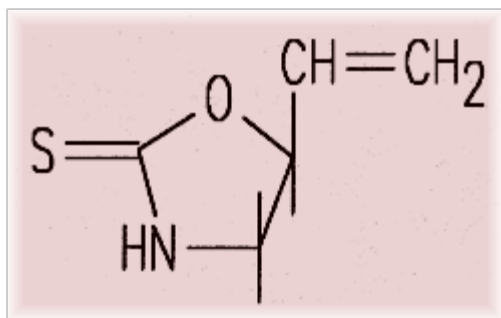
### **Notes on Toxic plant chemicals:**

Glucosinolates are chemicals that can inhibit the function of the thyroid gland. Various components of the chemicals can be detrimental to both humans and livestock. Goitrin inhibits thyroid function. Thiocyanates and isothiocyanates inhibit iodine uptake by the thyroid gland. Nitriles can be formed from glucosinolates and these chemicals are toxic, affecting the liver and kidneys (Chee and Schull 1985). SMCO (S-methyl-L-cysteine sulfoxide) is an alpha-amino acid that causes hemolytic anemia in livestock. This chemical is restricted to various members of the family Cruciferae in the genera *Brassica* and *Raphanus* as well as the family Liliaceae in the genus *Allium* (onions). Additional notes on this chemical can be found under members of these genera. The concentration of SMCO in kale plants may double as the plants mature. The quantity of SMCO is increased with the addition of nitrogen to high-sulfate soils. SMCO can be greatly reduced in low-sulfate soils. The variation of SMCO varies greatly amongst different varieties of plants in the genus *Brassica*, suggesting that concentrations of SMCO may be heritable (Benevenga et al. 1989).

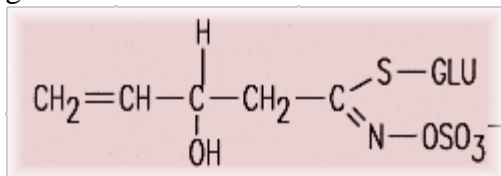
### **Toxic plant chemicals:**

glucosinolates

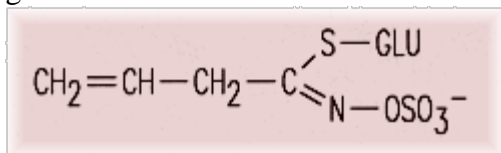




glucosinolates



glucosinolates



S-methyl-L-cysteine sulfoxide (SMCO)

Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Benevenga, N. J., Case, G. L., Steele, R. D. 1989. Occurrence and metabolism of s-methyl-l-cysteine and s-methyl-l-cysteine sulfoxide in plants and their toxicity and metabolism in animals. Pages 203-228 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

#### General symptoms of poisoning:

[Heinz bodies](#)  
[hemoglobinuria](#)  
[weight gain, reduced](#)

## **References:**

Smith, R. H. 1980. Kale poisoning: the brassica anemia factor. *Vet. Rec.*, 107: 12-15.

## **Goats**

### **General symptoms of poisoning:**

[Heinz bodies](#)  
[hemoglobinuria](#)

## **References:**

Smith, R. H. 1980. Kale poisoning: the brassica anemia factor. *Vet. Rec.*, 107: 12-15.

## **Humans**

### **General symptoms of poisoning:**

[thyroid, enlarged](#)

## **References:**

Cheeke, P. R., Shull, L. R. 1985. *Natural toxicants in feeds and poisonous plants*. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

## **Poultry**

## **Sheep**

### **General symptoms of poisoning:**

[Heinz bodies](#)  
[hemoglobinuria](#)

## **References:**

Benevenga, N. J., Case, G. L., Steele, R. D. 1989. Occurrence and metabolism of s-methyl-l-cysteine and s-methyl-l-cysteine sulfoxide in plants and their toxicity and metabolism in animals. Pages 203-228 in Cheeke, P. R., ed. *Toxicants of plant origin*. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

## **Swine**

### **General symptoms of poisoning:**

[weight gain, reduced](#)

### **Notes on poisoning:**

Glucosinolates in the plants can cause general reduced weight gain

in young pigs (less than 20 kg) (Fenwick et al. 1989).

**References:**

Fenwick, G. R., Heaney, R. K., Mawson, R. 1989. Glucosinolates. Pages 1-41 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. II. Glycosides. CRC Press, Inc., Boca Raton, Fla., USA. 277 pp.

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## [Notes on poisoning: wild calla](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### **General poisoning notes:**

Wild calla (*Calla palustris*) is a native plant that grows in swamps and marshes through much of Canada. Calcium oxalates occur, which can cause severe irritation of the mouth and throat. No cases of livestock poisoning are found in the literature, but the potential for poisoning is present. Humans are also at risk from this plant (Kingsbury 1964, Lampe and McCann 1985).

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Nomenclature:**

Scientific Name: *Calla palustris* L.

Vernacular name(s): wild calla

Scientific family name: *Araceae*

Vernacular family name: arum

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Calla palustris](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

wild calla:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

All parts of the plant contain calcium oxalate crystals, which can cause irritation of the mouth and throat (Lampe and McCann 1985).

### **Toxic parts:**

leaves  
rhizome  
roots  
stems

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Toxic plant chemicals:**

oxalate

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

### **Humans**

### **General symptoms of poisoning:**

[mouth, irritation of](#)

### **Notes on poisoning:**

Mouth and throat irritation, accompanied by pain and swelling, occurs upon chewing of plant parts. The insoluble oxalates do not produce systemic poisoning in humans. Washing or heating the rhizome can inactivate the oxalates. In northern Europe the ground rhizome is used as flour for bread (Frohne and Pfander 1983, Lampe and McCann 1985).

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

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## [Notes on poisoning: wild false indigo](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Wild false indigo (*Baptisia leucantha*) is a native perennial herb found in southern Ontario. The plant contains toxic alkaloids that have caused poisoning in cattle (Hansen 1930). This plant is potentially poisonous to humans, but no cases of human poisoning have been reported (Cheeke and Schull 1985).

### References:

Hansen, A. A. 1930. Indiana plants injurious to livestock. Purdue Univ. Agric. Ext. Stn. Circ., 175. 38 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Baptisia leucantha* T. & G.

Vernacular name(s): wild false indigo

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Baptisia leucantha](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

wild false indigo:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

flowers  
leaves  
stems

### **References:**

Hansen, A. A. 1930. Indiana plants injurious to livestock. Purdue Univ. Agric. Ext. Stn. Circ., 175. 38 pp.

### **Toxic plant chemicals:**

cytisine

### **References:**

Hansen, A. A. 1930. Indiana plants injurious to livestock. Purdue Univ. Agric. Ext. Stn. Circ., 175. 38 pp.

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.



## **Cattle**

### **General symptoms of poisoning:**

[anorexia](#)

[diarrhea](#)

### **References:**

Hansen, A. A. 1930. Indiana plants injurious to livestock. Purdue Univ. Agric. Ext. Stn. Circ., 175. 38 pp.

## **Humans**

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| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: wild ginger](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Wild ginger (*Asarum canadense*) is a native wildflower growing in rich woods in eastern Canada. This plant can cause dermatitis in some humans (Mitchell and Rook 1979).

### References:

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### Nomenclature:

Scientific Name: *Asarum canadense* L.

Vernacular name(s): wild ginger

Scientific family name: *Aristolochiaceae*

Vernacular family name: birthwort

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Asarum canadense](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba  
New Brunswick  
Ontario  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

wild ginger:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

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## [Notes on poisoning: wild indigo](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Wild indigo (*Baptisia tinctoria*) is a native perennial herb found in southern Ontario. Cheeke and Schull (1985) call the plant toxic but no cases of human poisoning have been reported.

### References:

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

### Nomenclature:

Scientific Name: *Baptisia tinctoria* (L.) Br.

Vernacular name(s): wild indigo

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Baptisia tinctoria](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Ontario

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

wild indigo:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
leaves

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Perkins, K. D., Payne, W. W. 1978. Guide to the poisonous and irritant plants of Florida. Univ. Fla. Agric. Ext. Serv. Circ., 441. 84 pp.

### **Toxic plant chemicals:**

baptisin  
cytisine

### **References:**

Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.

Perkins, K. D., Payne, W. W. 1978. Guide to the poisonous and irritant plants of Florida. Univ. Fla. Agric. Ext. Serv. Circ., 441. 84 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Humans

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## [Notes on poisoning: wild mustard](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Wild mustard (*Sinapis arvensis*) is a naturalized herb found in fields and waste places across Canada. Cattle have been poisoned after ingesting hay containing large quantities of wild mustard seed. This plant contains glucosinolates. See the general notes under [Brassica oleracea](#), which further explain the poisoning potential of plants that contain these chemicals.

### References:

Gwatkin, R., Moynihan, I. W. 1943. Wild mustard seed poisoning in cattle. *Can. J. Comp. Med.*, 7: 76-77.

### Nomenclature:

Scientific Name: *Sinapis arvensis* L.

Vernacular name(s): wild mustard

Scientific family name: *Cruciferae*

Vernacular family name: mustard

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Sinapis arvensis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

wild mustard:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
seeds

### **References:**

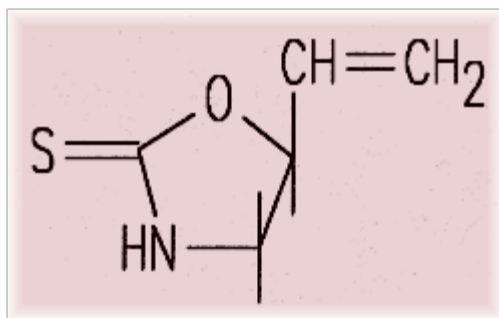
Gwatkin, R., Moynihan, I. W. 1943. Wild mustard seed poisoning in cattle. Can. J. Comp. Med., 7: 76-77.

Mulligan, G. A., Bailey, L. G. 1975. The biology of Canadian weeds. 8. *Sinapis arvensis* L. Can. J. Plant Sci., 55: 171-183.

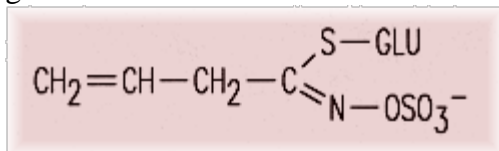
### **Toxic plant chemicals:**

glucosinolates

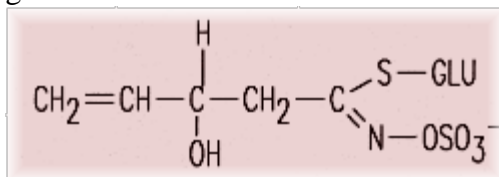




glucosinolates



glucosinolates



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Gwatkin, R., Moynihan, I. W. 1943. Wild mustard seed poisoning in cattle. *Can. J. Comp. Med.*, 7: 76-77.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Cattle

#### General symptoms of poisoning:

[collapse](#)

[death](#)

[gait, staggering](#)

#### Notes on poisoning:

Cattle have been poisoned in Canada after ingesting hay containing large quantities of wild mustard seed. The cattle first produced excessive saliva, after which they staggered, collapsed, and died (Gwatkin and Moynihan 1943).

### References:

Gwatkin, R., Moynihan, I. W. 1943. Wild mustard seed poisoning

in cattle. Can. J. Comp. Med., 7: 76-77.

## **Swine**

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## [Notes on poisoning: wild onion](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Wild onion (*Allium canadense*) is a native herb found in parts of eastern Canada. This plant can cause gastroenteritis in young children who ingest parts of this plant. Chronic ingestion of the bulbs reduces iodine uptake by the thyroid gland, which can lead to problems. No specific treatment is suggested other than to prevent dehydration (Lampe and McCann 1985). Livestock have also been poisoned by ingesting wild onions, and some have died (Pipal 1918). Horses have developed hemolytic anemia from ingesting wild onion leaves (Scoggan 1989).

### References:

- Lampe, K. F., McCann, M. A. 1985. AMA Handbook of poisonous and injurious plants. American Medical Assoc. Chicago, Ill., USA. 432 pp.
- Pipal, F. J. 1918. A suspected case of stock poisoning by wild onion (*Allium canadense*). Proc. Indiana Acad. Sci., 1917: 139.

### Nomenclature:

Scientific Name: *Allium canadense* L.

Vernacular name(s): wild onion

Scientific family name: *Liliaceae*

Vernacular family name: lily

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Allium canadense](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.
- Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

New Brunswick

Ontario

Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

wild onion:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

bulbs

leaves

### **References:**

Scoggan, R. D. 1989. Wild onion toxicosis and other hemolytic anemia toxins. Equine professional topics. Univ. Ill. Urbana-Champaign Ext., 14(1): 1-2.

### **Notes on Toxic plant chemicals:**

The three onion species (*Allium* spp.) mentioned in this information system contain S-methyl-L-cysteine sulfoxide (SMCO), which is a sulfur-containing alpha-amino acid. The empirical formula is C<sub>4</sub>H<sub>9</sub>O<sub>3</sub>NS. The common garden onion (*A. cepa*) contains the following:

- 100 mg/kg wet weight of SMCO in the leaves,
  - 1600 mg/kg wet weight of SMCO in the bulbs
- (Benevenga et al. 1989)

## **Toxic plant chemicals:**

S-methyl-L-cysteine sulfoxide (SMCO)

## **References:**

Benevenga, N. J., Case, G. L., Steele, R. D. 1989. Occurrence and metabolism of s-methyl-l-cysteine and s-methyl-l-cysteine sulfoxide in plants and their toxicity and metabolism in animals. Pages 203-228 in Cheeke, P. R., ed. Toxicants of plant origin. Vol. III. Proteins and amino acids. CRC Press, Inc., Boca Raton, Fla., USA. 271 pp.

## **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[breathing, rapid](#)  
[death](#)  
[gastroenteritis](#)  
[heart rate, elevated](#)  
[Heinz bodies](#)  
[recumbency](#)  
[weakness](#)

## **References:**

Pipal, F. J. 1918. A suspected case of stock poisoning by wild onion (*Allium canadense*). Proc. Indiana Acad. Sci., 1917: 139.

### **Horses**

### **Humans**

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## [Notes on poisoning: wild parsnip](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Parsnip (*Pastinaca sativa*) is a cultivated and a naturalized herb in much of Canada. The plant juices can cause photodermatitis in some individuals after exposure to sunlight. Exposure to leaves, stems, and peeling roots can cause the problem. The edible roots contain enough furocoumarins to be physiologically active in some cases. These toxins are mutagenic (even in the dark) inducing melanization in human skin. Photodermatitis from this plant is often confused with poison-ivy dermatitis (Mitchell and Rook 1979, Ivie et al. 1981).

### References:

Ivie, G. W., Holt, D. L., Ivey, M. C. 1981. Natural toxicants in human foods: psoralens in raw and cooked parsnip root. Science (Wash D. C.), 213: 909-910.

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### Nomenclature:

Scientific Name: *Pastinaca sativa* L.

Vernacular name(s): wild parsnip

Scientific family name: *Umbelliferae*

Vernacular family name: parsley

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Pastinaca sativa](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

wild parsnip:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Exposure to the plant juices in the leaves, stems, or roots can result in dermatitis caused by phototoxic furocoumarins. Wetness of the skin accentuates the results. Ingesting large quantities of parsnip root may expose people to sufficient quantities of psoralens to have physiological affects. Parsnips produce much higher concentrations of these toxins in response to disease infection (Mitchell and Rook 1979, Ivie et al. 1981).

### **Toxic parts:**

plant juices

roots

### **References:**

Ivie, G. W., Holt, D. L., Ivey, M. C. 1981. Natural toxicants in human foods: psoralens in raw and cooked parsnip root. Science (Wash D. C.), 213: 909-910.

Mitchell, J. C., Rook, A. 1979. Botanical dermatology. Greenglass Ltd, Vancouver, B.C., Canada. 787 pp.

### **Notes on Toxic plant chemicals:**

Three furocoumarins (psoralen, xanthotoxin, bergapten) are found in parsnip roots. These chemicals are phototoxic, mutagenic, and photo- carcinogenic. The cumulative concentration is about 40 ppm. Consumption of 0.1 kg of parsnip could expose a person to 4-5 mg of psoralens, a level that may cause some physiological effects. These chemicals are potent photosensitizers and are highly mutagenic in long-wavelength ultraviolet light (Ivie et al. 1981).

### **Toxic plant chemicals:**

furocoumarin

### **References:**

Ivie, G. W., Holt, D. L., Ivey, M. C. 1981. Natural toxicants in human foods: psoralens in raw and cooked parsnip root. Science (Wash D. C.), 213: 909-910.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Humans**

### **General symptoms of poisoning:**

[blistering](#)  
[erythema](#)

### **References:**

Ivie, G. W., Holt, D. L., Ivey, M. C. 1981. Natural toxicants in human foods: psoralens in raw and cooked parsnip root. Science (Wash D. C.), 213: 909-910.

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## [Notes on poisoning: wild radish](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Wild radish (*Raphanus raphanistrum*) is a naturalized herb found across most of Canada. This plant, like the cultivated radish (*Raphanus sativus*) contains glucosinolates in the seeds, which can cause poisoning if eaten in sufficient quantities by livestock. Symptoms are similar to those discussed in the general notes under [Brassica oleracea](#).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Nomenclature:

Scientific Name: *Raphanus raphanistrum* L.

Vernacular name(s): wild radish

Scientific family name: *Cruciferae*

Vernacular family name: mustard

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Raphanus raphanistrum](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia  
Labrador  
New Brunswick  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

wild radish:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

seeds

### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

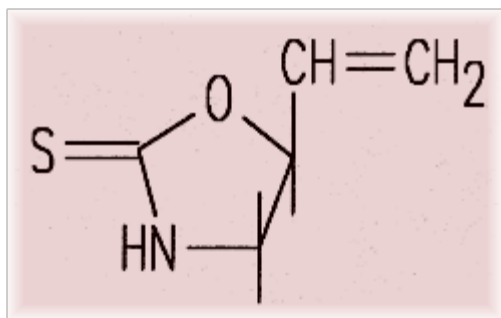
Palechek, N. 1986. Toxic weed seeds in cattle feed. Can. Vet. J., 26: A10.

### **Notes on Toxic plant chemicals:**

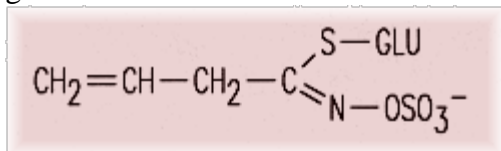
Glucosinolates are contained in the seeds of this plant. See the discussions on these toxins in general notes under [Brassica oleracea](#).

### **Toxic plant chemicals:**

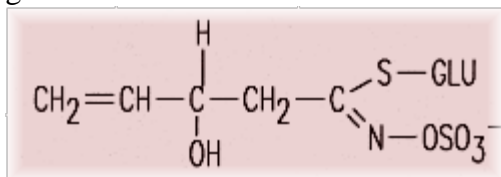
glucosinolates



glucosinolates



glucosinolates



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### Cattle

#### General symptoms of poisoning:

[hemoglobinuria](#)

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

### Sheep

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## [Notes on poisoning: wormseed mustard](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Wormseed mustard (*Erysimum cheiranthoides*) is a naturalized herb found across Canada in fields and waste places. It contains large quantities of glucosinolates, which release allylthiocyanate upon hydrolysis. Cattle and swine were poisoned in Canada when feeds were contaminated with sufficient quantities of seed from wormseed mustard plants (Kingsbury 1964, Palechek 1986).

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Palechek, N. 1986. Toxic weed seeds in cattle feed. Can. Vet. J., 26: A10.

### Nomenclature:

Scientific Name: *Erysimum cheiranthoides* L.

Vernacular name(s): wormseed mustard

Scientific family name: *Cruciferae*

Vernacular family name: mustard

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Erysimum cheiranthoides](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

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Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

wormseed mustard:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

seeds

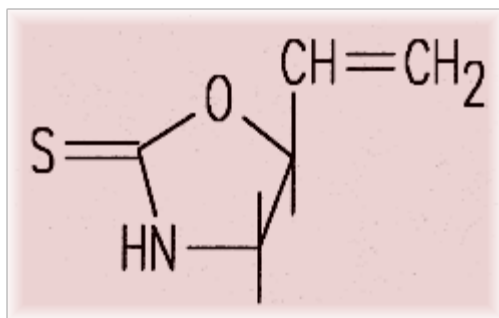
### **References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

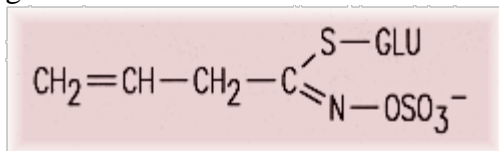
Palechek, N. 1986. Toxic weed seeds in cattle feed. Can. Vet. J., 26: A10.

### **Toxic plant chemicals:**

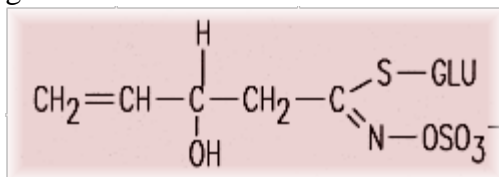
glucosinolates



glucosinolates



glucosinolates



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

### References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

Palechek, N. 1986. Toxic weed seeds in cattle feed. *Can. Vet. J.*, 26: A10.

### Animals/Human Poisoning:

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### Cattle

#### General symptoms of poisoning:

[colic](#)

[depression](#)

#### References:

Palechek, N. 1986. Toxic weed seeds in cattle feed. *Can. Vet. J.*, 26: A10.

#### Swine

#### General symptoms of poisoning:

[death](#)

**Notes on poisoning:**

Swine died after ingesting food that contained 1.7% seeds of the plant by weight (Kingsbury 1964).

**References:**

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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## [Notes on poisoning: yellow iris](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Yellow iris (*Iris pseudacorus*) is a naturalized plant found in wet areas in parts of southern Canada. This plant has poisoned cattle and swine and may cause similar symptoms in humans if the rhizomes are ingested. The plant juices can cause dermatitis in sensitive humans. In British Columbia cattle were poisoned by a cultivated blue-flowered Iris species. The symptoms of that poisoning are described under this species (Bruce 1920, Cooper and Johnson 1984).

### References:

Bruce, E. A. 1920. Iris poisoning of calves. J. Am. Vet. Med. Assoc., 56: 72-74.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### Nomenclature:

Scientific Name: *Iris pseudacorus* L.

Vernacular name(s): yellow iris

Scientific family name: *Iridaceae*

Vernacular family name: iris

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Iris pseudacorus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan,

New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

British Columbia  
Manitoba  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

yellow iris:

**Images:** [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Ingesting the rhizome causes poisoning in animals, and the plant juices cause dermatitis in sensitive individuals (Cooper and Johnson 1984).

### **Toxic parts:**

plant juices  
rhizome

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Notes on Toxic plant chemicals:**

The toxin in Iris species has not been confirmed, but a glycoside, iridin (or irisin), has been implicated (Cooper and Johnson 1984).

### **Toxic plant chemicals:**

iridin

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Cattle**

#### **General symptoms of poisoning:**

[abdominal pains](#)

[blistering](#)

[death](#)

[diarrhea](#)

[mouth, irritation of](#)

[recumbency](#)

[salivation](#)

#### **Notes on poisoning:**

Ingesting yellow flag rhizome has apparently caused diarrhea and bloody feces in cattle in Europe. The toxin can survive drying because yellow flag in hay causes diarrhea (Cooper and Johnson 1984).

In a case in British Columbia, cattle ingested rhizomes from an unidentified blue-flowered cultivated *Iris* species. Three calves showed symptoms and died within 4 days. Initial symptoms included recumbency and excessive salivation. The glands of the head and throat became hard and enlarged. Raised sores appeared on the lips and muzzle, becoming yellowish scabs that irritated animals. Acute abdominal pain occurred, and bloody feces were passed. Death followed. Postmortem findings showed irritation of the lower stomachs and intestines. The kidneys, liver, and spleen were very dark-colored. Unfortunately, the identity of this *Iris* was never determined (Bruce 1920). Livestock should be denied access to any *Iris* species that grow in the wild or in gardens, because ingestion may cause poisoning.

#### **References:**

Bruce, E. A. 1920. *Iris* poisoning of calves. *J. Am. Vet. Med. Assoc.*, 56: 72-74.

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery

Office, London, England. 305 pp.

## **Humans**

### **General symptoms of poisoning:**

[blistering](#)

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

## **Swine**

### **General symptoms of poisoning:**

[abortion](#)

[death](#)

[diarrhea](#)

### **Notes on poisoning:**

Swine that ingest rhizomes suffer diarrhea; one sow hemorrhaged, aborted, and died (Cooper and Johnson 1984).

### **References:**

Cooper, M. R., Johnson, A. W. 1984. Poisonous plants in Britain and their effects on animals and man. Her Majesty's Stationery Office, London, England. 305 pp.

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|---|-------------------|--------------|---------------------------------|--------------------|
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## [Notes on poisoning: yellow lady's-slipper](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Yellow lady's-slipper (*Cypripedium calceolus*) is a native perennial wild flower found across Canada. The plant causes a type of dermatitis that resembles the dermatitis caused by poison-ivy (*Rhus spp.*). See additional information under general notes for *Cypripedium acaule*.

### References:

Reddoch, A. H., Reddoch, J. M. 1984. Warning: Lady's-slippers can be hazardous to your health. Plant Press, 2(1): 10.

### Nomenclature:

Scientific Name: *Cypripedium calceolus* L.

Vernacular name(s): yellow lady's-slipper

Scientific family name: *Orchidaceae*

Vernacular family name: orchid

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Cypripedium calceolus](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus

Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

yellow lady's-slipper:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Reddoch, A. H., Reddoch, J. M. 1984. Warning: Lady's-slippers can be hazardous to your health. Plant Press, 2(1): 10.

### **Toxic plant chemicals:**

cyprinedin

### **References:**

Reddoch, A. H., Reddoch, J. M. 1984. Warning: Lady's-slippers can be hazardous to your health. Plant Press, 2(1): 10.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the

literature (as of 1993) contained no detailed explanation.

## **Humans**

### **General symptoms of poisoning:**

[blisters, weeping](#)

### **References:**

Reddoch, A. H., Reddoch, J. M. 1984. Warning: Lady's-slippers can be hazardous to your health. Plant Press, 2(1): 10.

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| Coming events                              | About CBIF | Links | Reports and publications | Home        |
| Canadian Biodiversity Information Facility |            |       |                          |             |



## [Notes on poisoning: yellow rocket](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Yellow rocket (*Barbarea vulgaris*) is a naturalized plant found across much of Canada. This plant poisoned a horse in one unusual case in which the animal ate large quantities of the plant from a wagon that was hauling the weed from a field (Hansen 1930). The symptoms suggested glucosinolate poisoning, as in *Brassica* spp.

### References:

Hansen, A. A. 1930. Indiana plants injurious to livestock. Purdue Univ. Agric. Ext. Stn. Circ., 175. 38 pp.

MacDonald, M. A., Cavers, P. B. 1991. The biology of Canadian weeds. 97. *Barbarea vulgaris* R.Br. Can. J. Plant Sci., 71: 149-166.

### Nomenclature:

Scientific Name: *Barbarea vulgaris* R. Br.

Vernacular name(s): yellow rocket

Scientific family name: *Cruciferae*

Vernacular family name: mustard

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Barbarea vulgaris](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci.

(Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
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Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

yellow rocket:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Hansen, A. A. 1930. Indiana plants injurious to livestock. Purdue Univ. Agric. Ext. Stn. Circ., 175. 38 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

### **Horses**

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| <b>Canadian Biodiversity Information Facility</b> |                   |              |                                 |                    |



## [Notes on poisoning: yellow sage](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### **General poisoning notes:**

Yellow sage (*Lantana camara*) is occasionally sold as a houseplant and may also be planted outdoors in the summer in Canada. Children who ingested green berries became ill and died. In warmer parts of the world (e.g., Florida, Australia), the plant grows outside and becomes weedy. Livestock have been poisoned after ingesting the entire plants. Importantly, livestock that ingest berries exhibit symptoms that are different from those of children who ingest the berries. Livestock do not normally encounter this plant in Canada, but the symptoms of poisoning are included under cattle. Sheep and goats have also been poisoned. Care should be taken to keep children as well as family pets away from this plant (Wolfson and Solomons 1964, McLennan and Amos 1989, Spoerke and Smolinske 1990). Cats and dogs that have access to yellow sage indoors can become poisoned if they ingest the immature berries of foliage of this plant. No records were found in the literature of toxicity in pets from yellow sage ingestion.

### **References:**

- McLennan, M. W., Amos, M. L. 1989. Treatment of lantana poisoning in cattle. *Aust. Vet. J.*, 66: 93-94.
- Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.
- Wolfson, S. L., Solomons, T. W. 1964. Poisoning by fruit of *Lantana camara*. *Am. J. Dis. Child.*, 107: 109-112.

### **Nomenclature:**

Scientific Name: *Lantana camara* L.

Vernacular name(s): yellow sage

Scientific family name: *Verbenaceae*

Vernacular family name: vervain

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Lantana camara](#)

### **References:**

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Plant or plant parts used in or around the home.

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

yellow sage:

Images: [images.google.com](http://images.google.com)

### **Notes on Poisonous plant parts:**

Ingesting the leaves has caused poisoning in livestock in areas where the plant can survive outdoors, such as Florida and Australia. Young children who ingested the green berries became ill and died (Wolfson and Solomons 1964, McLennan and Amos 1989).

### **Toxic parts:**

immature fruit  
leaves

### **References:**

McLennan, M. W., Amos, M. L. 1989. Treatment of lantana poisoning in cattle. Aust. Vet. J., 66: 93-94.



Sharma, O. P., Dawra, R. K., Makkar, H. P. 1989. Toxicity of isolated lantana (*Lantana camara* L.) constituents to male and female guinea pigs. *Vet. Hum. Toxicol.*, 31: 10-13.

#### **Notes on Toxic plant chemicals:**

Lantadene A and lantadene B, which are pentacyclic triterpenes, have been suspected as the toxic constituents of yellow sage leaves. However, there are conflicting findings on the chemical toxins and their toxic affects on animals. Sharma et al. (1989) found that crystal polymorphism in the triterpenoids changes the toxicity (polyhedral crystals are toxic to guinea pigs and rod-shaped crystals are not). In addition, the toxic component of the berries has not been defined. The plant also contains a fish poison, lancamarone, that is present in the greatest concentration in the summer. The effects of this chemical on mammals have not been studied (Spoerke and Smolinske 1990).

#### **Toxic plant chemicals:**

lantadene A & B

#### **References:**

Sharma, O. P., Dawra, R. K., Makkar, H. P. 1989. Toxicity of isolated lantana (*Lantana camara* L.) constituents to male and female guinea pigs. *Vet. Hum. Toxicol.*, 31: 10-13.

#### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

#### **Cats**

#### **Cattle**

#### **General symptoms of poisoning:**

[appetite, loss of](#)  
[dehydration](#)  
[jaundice](#)  
[urine, yellowish](#)

#### **References:**

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

#### **Dogs**

#### **Goats**

#### **Humans**

## General symptoms of poisoning:

[ataxia](#)  
[breathing, labored](#)  
[cyanosis](#)  
[death](#)  
[diarrhea](#)  
[lethargy](#)  
[liver, congestion of](#)  
[pupil dilation](#)  
[pupils, pinpoint](#)  
[unconsciousness](#)  
[vomiting](#)  
[weakness](#)

## Notes on poisoning:

Ingesting the green berries of yellow sage produces the following symptoms: vomiting, diarrhea, weakness, lethargy, cyanosis, slow labored breathing, dilated pupils, ataxia, coma, and depressed deep tendon reflexes. Postmortem findings showed congestion of the lungs and kidneys. The small intestines were dilated. These symptoms all occurred after an unknown quantity of the immature green berries was ingested. The rough texture of the leaves and stems discourages children from ingesting them. Humans have therefore not shown the photosensitivity and liver problems that occur when livestock ingest entire plants. Lavage should be done quickly to reduce or prevent symptoms. Several authors have reported that the ripe berries are nontoxic to humans (Wolfson and Solomons 1964, Spoerke and Smolinske 1990).

## References:

Spoerke, D. G., Smolinske, S. C. 1990. Toxicity of houseplants. CRC Press, Inc., Boca Raton, Fla., USA. 335 pp.

Wolfson, S. L., Solomons, T. W. 1964. Poisoning by fruit of *Lantana camara*. Am. J. Dis. Child., 107: 109-112.

## Sheep

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## [Notes on poisoning: yellow star-thistle](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Yellow star-thistle (*Centaurea solstitialis*) has the same toxic effect on horses as Russian thistle, which is more toxic. Chewing disease becomes incurable once clinical signs are present (Cordy 1987). See the general notes under Russian thistle.

### References:

Cordy, D. R. 1978. *Centaurea* species and equine nigropallidal encephalomalacia. Pages 327-336 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

### Nomenclature:

Scientific Name: *Centaurea solstitialis* L.

Vernacular name(s): yellow star-thistle

Scientific family name: *Compositae*

Vernacular family name: composite

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Centaurea solstitialis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Manitoba  
Ontario  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

yellow star-thistle:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

all parts  
leaves  
stems

### **References:**

Cordy, D. R. 1978. *Centaurea* species and equine nigropallidal encephalomalacia. Pages 327-336 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

### **Toxic plant chemicals:**

unknown chemical

### **References:**

Cordy, D. R. 1978. *Centaurea* species and equine nigropallidal encephalomalacia. Pages 327-336 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

### **Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

## Horses

### General symptoms of poisoning:

[death](#)

[incoordination](#)

[water intake, reduced](#)

### References:

Cordy, D. R. 1978. *Centaurea* species and equine nigropallidal encephalomalacia. Pages 327-336 in Keeler, R. F., Van Kampen, K. R., James, L. F., eds. Effects of poisonous plants on livestock. Academic Press, New York, N.Y., USA. 600 pp.

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## [Notes on poisoning: yellow sweet-clover](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Yellow sweet-clover (*Melilotus officinalis*) is cultivated and naturalized across most of Canada. When cut for feed, molding usually occurs because of the succulent stems. The molds can metabolize coumarin which is hydrolyzed from a plant glycoside. Dicoumarol is produced, which is toxic to animals. See notes under white sweet-clover (*Melilotus alba*).

### References:

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

McDonald, G. K. 1980. Moldy sweetclover poisoning in a horse. Can. Vet. J., 21: 250-251.

Radostits, O. M., Searcy, G. P., Mitchall, K. G. 1980. Moldy sweetclover poisoning in cattle. Can. Vet. J., 21: 155-158.

Turkington, R. A., Cavers, P. B., Rempel, E. 1978. The biology of Canadian weeds. 29. *Melilotus alba* Desr. and *M. officinalis* (L.) Lam. Can. J. Plant Sci., 58: 523-537.

### Nomenclature:

Scientific Name: *Melilotus officinalis* (L.) Lam.

Vernacular name(s): yellow sweet-clover

Scientific family name: *Leguminosae*

Vernacular family name: pea

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Melilotus officinalis](#)

### References:

Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.

Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan  
Yukon Territory

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

yellow sweet-clover:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves  
stems

### **References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn.,

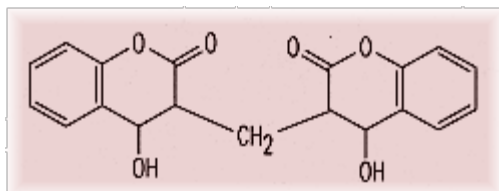
USA. 492 pp.

**Notes on Toxic plant chemicals:**

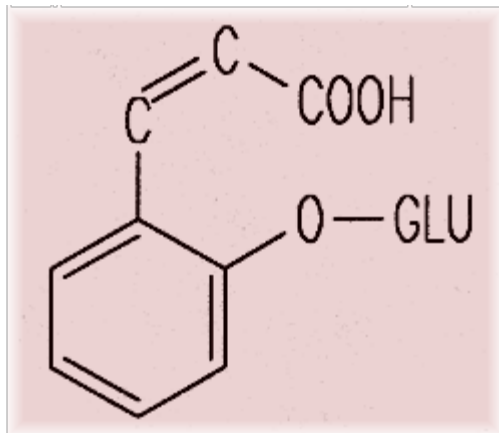
A glycoside, melilotoside, hydrolyzes to coumarin. Coumarin is metabolized by molds into dicoumarol, which interrupts vitamin K use in animals. Blood-clotting abilities are affected. See additional notes under white sweet-clover (*Melilotus alba*).

**Toxic plant chemicals:**

dicoumarol



melilotoside



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[anemia](#)

[hemorrhage](#)

**Notes on poisoning:**



See notes under white sweet-clover ([Melilotus alba](#)). .

**References:**

Cheeke, P. R., Shull, L. R. 1985. Natural toxicants in feeds and poisonous plants. AVI Publishing Company, Inc., Westport, Conn., USA. 492 pp.

Radostits, O. M., Searcy, G. P., Mitchall, K. G. 1980. Moldy sweetclover poisoning in cattle. Can. Vet. J., 21: 155-158.

**Horses**

**General symptoms of poisoning:**

[anemia](#)

[hemorrhage](#)

**Notes on poisoning:**

See notes under white sweet-clover ([Melilotus alba](#)). .

**References:**

McDonald, G. K. 1980. Moldy sweetclover poisoning in a horse. Can. Vet. J., 21: 250-251.

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## [Notes on poisoning: yellow toadflax](#)

### Introduction

### Interactive

### All poisonous plants by Botanical name

### All poisonous plants by Common name

### Important WWW Poisonous Plants sites



### General poisoning notes:

Yellow toadflax (*Linaria vulgaris*) is an introduced herb that is widely naturalized across Canada. This plant contains several compounds, including glucosides and the cyanogenic glucoside prunasin. The plant is regarded as toxic to livestock in Europe. Cattle generally avoid grazing stands of this plant, but there is more potential for poisoning when the animals are provided with hay that has a high content of yellow toadflax. No definitive records of poisoning are found in the literature. Other members of the genus are found in Canada as well, including the introduced Dalmatian toadflax (*Linaria dalmatica*). For safety's sake, hay should not be fed to livestock if it contains a high content of these plants.

### References:

- Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.
- Sticher, O. 1971. Isolation of antirrinocide from *Linaria vulgaris*. *Phytochemistry (Oxf.)*, 10: 1974-1975.

### Nomenclature:

Scientific Name: *Linaria vulgaris* Mill.

Vernacular name(s): yellow toadflax

Scientific family name: *Scrophulariaceae*

Vernacular family name: frigwort

Go to ITIS\*<sup>ca</sup> for more taxonomic information on: [Linaria vulgaris](#)

### References:

- Agriculture Quebec. 1975. Noms des maladies des plantes du Canada/ Names of plant diseases in Canada. , Quebec City, Que., Canada. 288 pp.
- Alex, J. F., Cayouette, R., Mulligan, G. A. 1980. Common and botanical names of weeds in Canada/Noms populaire et scientifiques des plantes nuisibles du Canada. Revised. Agric. Can. Publ., Ottawa, Ont., Canada. 132 pp.

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Scoggan, H. J. 1978, 1979. The flora of Canada. Nat. Mus. Nat. Sci. (Ottawa) Publ. Bot. 7(1)-7(4). 1711 pp.

Van Wijk, H. L. 1911. A dictionary of plant names. Martinus Nijhoff, The Hague, The Netherlands. 1444 pp.

Victorin, M. 1964. Flore Laurentienne. 2nd ed. Univ. Montreal, Montreal, Que., Canada. 952 pp.

### **Geographic Information**

Alberta  
British Columbia  
Labrador  
Manitoba  
New Brunswick  
Newfoundland  
Northwest Territories  
Nova Scotia  
Ontario  
Prince Edward Island  
Quebec  
Saskatchewan

### **References:**

Bailey, L. H., Bailey, E. Z. 1976. Hortus third. Revised. MacMillan, New York, N.Y., USA. 1290 pp.

Boivin, B. 1966, 1967. Énumération des plantes du Canada. Provencheria 6. Nat. Can. (Que.) 93: 253-274; 371-437; 583-646; 989-1063. 94: 131-157; 471-528; 625-655.

### **Image or illustration**

yellow toadflax:

**Images:** [images.google.com](http://images.google.com)

### **Toxic parts:**

leaves

### **References:**

Sticher, O. 1971. Isolation of antirrinocide from *Linaria vulgaris*. Phytochemistry (Oxf.), 10: 1974-1975.

### **Notes on Toxic plant chemicals:**

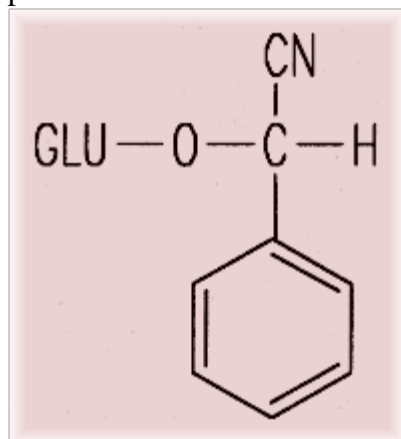
Yellow toadflax contains several chemicals, including the cyanogenic glycoside prunasin. It also contains a glucoside,

antirrinocide (Sticher 1974; Conn 1981).

**Toxic plant chemicals:**

antirrinocide

prunasin



Chemical diagram(s) are courtesy of Ruth McDiarmid, Biochemistry Technician, Kamloops Range Station, Agriculture and Agri-Food Canada, Kamloops, British Columbia, Canada.

**References:**

Conn, E. E. 1981. Cyanogenic glycosides. Pages 479-501 in Stumpf, P. K., Conn, E. E., eds. The biochemistry of plants. Vol. 7. Secondary plant products. Academic Press, New York, N.Y., USA. 600 pp.

Sticher, O. 1971. Isolation of antirrinocide from *Linaria vulgaris*. Phytochemistry (Oxf.), 10: 1974-1975.

**Animals/Human Poisoning:**

Note: When an animal is listed without additional information, the literature (as of 1993) contained no detailed explanation.

**Cattle**

**General symptoms of poisoning:**

[breathing, rapid](#)

[cyanosis](#)

[dyspnea](#)

[gait, staggering](#)

[paralysis](#)

**Notes on poisoning:**

General symptoms of cyanide poisoning are listed above. These symptoms have not been reported in the literature for ingestion of yellow toadflax. The general symptoms for cyanide poisoning were taken from Kingsbury (1964).

## References:

Kingsbury, J. M. 1964. Poisonous plants of the United States and Canada. Prentice-Hall Inc., Englewood Cliffs, N.J., USA. 626 pp.

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### Introduction

**Choose one from each section**

### Interactive

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### All poisonous plants by Botanical name

1. Common plant names.
2. Botanical (scientific plant) names.

### All poisonous plants by Common name

**Choose one from section B**

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  2. Poisonous house plants only.
  3. Plants with Illustrations.
- 
4. Humans/Animals.
  5. Poisonous Plant Parts.
  6. Toxic chemicals.
  7. Distribution (by province).
  8. Symptoms.
  9. Plant family.
- 
10. Humans/Animals || Provincial Distribution.
  11. Poisonous Plant Parts || Provincial Distribution.
  12. Humans/Animals || Symptoms.



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### Introduction

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### Liste de toutes les plantes toxiques par nom commun

### Les principaux sites Web sur les plantes toxiques

préparé par  
Derek B. Munro  
spécialiste de l'informatique biologique

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- [Recherche interactive](#)
- [Liste de toutes les plantes toxiques par nom scientifique](#)
- [Liste de toutes les plantes toxiques par nom commun](#)
- [Les principaux sites Web sur les plantes toxiques](#)
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