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>>Since he first introduced the technique of square-foot gardening over 20 years ago, Mel Bartholomew has literally traveled the globe teaching this revolutionary gardening system to millions of gardeners. On today's show we'll meet up with Mel and learn firsthand how to start our own square foot garden. And think of some extra tips for maintaining a successful one. Hi, I'm Rebecca Cressman, and you're watching HomeGrown!

>>Welcome to HomeGrown! The show that brings you all the dirt on vegetable gardening. Today we're headed off to learn how to build and cultivate a square foot garden. Our very own James Greaves tracked down the originator of the method, Mel Bartholomew, and got an up close and personal lesson on the basics of this deceptively simple gardening system. Let's take a look!

>>Mel, why did you do that square foot gardening?

>>Well I tried all the other kinds of methods, and I found that they were too much work, too much expense, for the harvest that you got. And I went all around the country and asked all the experts, "Why do we garden the way that we do?" And they all told me the same answer, you know what that was? Because that's the way we've always done it! And I said right then and there, I'm going to invent a new way to garden!

>>And how did you go about that?

>>Well, I took all the things that are wrong with single-row gardening. I listed every single thing, and then I went and found a simple, easy answer.

>>What are the things that are wrong?

>>Well, first of all, you roto-till up a whole big area to loosen the soil, and then you walk all over it again! That doesn't make sense, does it?

>>No.

>>So I thought why don't we reach into our garden and not walk on the growing soil?

>>So what is square foot gardening? How does that work?

>>Well, square foot gardening is done in 4x4' areas. And you can walk all the way around and we make a box. Because later I found out we don't have to improve the existing soil! If we start with a perfect soil, then put it in a box, walk all the way around it, we split that box up into 16 areas called a square foot. That's how it got its name. And then we plant something different in every single square foot. By golly, it worked! And you know what the best thing was? We didn't need fertilizer!

>>So what are the main differences between traditional row-gardening and square-foot gardening?

>>Well, when you have a row garden, you have a single row, you dig a furrow and you pour out a whole packet of seeds, right? And then you go back and you thin them all out—one every six inches, or eight inches (something like that). That seemed like a terrible waste of seeds. Plus, what do you have on each side of that single row?

>>A lot of dirt?

>>Well yeah, a lot of dirt! But that was dirt that you roto-tilled up, you fertilize it and you water it every time. And what's it going to grow? Weeds! Just weeds. So then what do you have to do?

>>You have to go and weed it...

>>Exactly! And I had to do that with my mother's garden when I was a teenager. Everything was weed and weed and weed. And everyone grew up with single rows because you have a 3-foot-wide aisle on each side of that little single row. So I thought why don't we make that single little row much bigger, still have your 3-foot aisles but reach in? Well I found out people could reach in two feet, so on both sides it's a 4-foot-wide. So now I have, if you would think of it as a 4-foot-wide row, in between the aisles. And you don't water and you don't fertilize those aisles.

>>You don't have to weed in the rows anymore. What other advantages are there?

>>Well, it takes about 10 percent of the work, 5 percent of the water. A big savings on water here, yeah! And you grow a much better crop because you're growing in perfect soil. And there's no work.

>>And do you grow just as much crop?

>>Oh, absolutely! The space savings is phenomenal. We can grow as much doing the square-foot system in 20 percent of the space as a single row. That means an 80 percent reduction! So the work...

>>So you can grow five times as much in the same land.

>>You're good at math, I can tell! So its 1/5 or five times as much. So we don't need that big huge area.

>>It sounds almost too good to be true. Is there a lot of investment in this?

>>No, not really. It can be free, you can get all the ingredients free. Or you can invest. There's an initial investment. You've got to build your boxes and you've got to get perfect soil.

>>Okay, Mel. Here we are in the garden. What's the first thing we need to do?

>>Well the first thing we want to actually locate are our new garden, our square-foot garden. And there's a couple things you want to remember. First of all, it needs lots of sun. Good ol' beautiful sun. We need about 6-8 hours of sun every day. The other thing is, we don't want to be in the trees. See all the shadows there? And there are roots there too. So we want to stay away from trees and shrubberies.

>>Okay, so somewhere where there's lots of sun, do we need to be close to the house, probably?

>>That's a good advantage; because the garden's so small with square-foot gardening you can be close to the house. Now if it's close to the house you're going to see your garden more often. You're going to go to it more often. You're going to take better care of it. And what's going to happen? You're going to have a better garden, right?

>>How do we arrange our garden?

>>Well, we arrange it in squares. I want you to think of squares. Instead of long rows and traditional gardening, we're thinking of 4x4 squares. You walk all around them. You build your square, and we're going to ignore the existing ground and build up above. So we need boxes. Bottomless boxes. I've got one right here, and I'm going to show you that. But we decided that we could be right here in the grass. If so, we'd have to take all this grass out. Dig it out because it will come up through. But we're going to locate our box over here where this dirt is. Now you see a few weeds there. We've gone

through and dug most of them out. But the next thing you have to put down is a barrier for those weeds. And you can use cardboard if you don't want to spend any money. Or you can go buy a good landscape cloth. And I've got one right here. Let's put that down. And we'll put it right in this corner.

>>And then the box goes straight on top of this? Is that what we do?

>>Exactly, yep. This will keep all the weeds from coming up.

>>Now this has to be the same size as the box.

>>Well, it can be a little bigger. Just so nothing gets around the corner.

>>Okay.

>>When it's about 4x4. Now let's carry our box over there.

>>Now tell me about this wood. Is this the right size?

>>Well this is 2x6 lumber. You can buy it at any lumber store. Pull that, and get that pulled over. And what I've used, free wood, used wood. I got this at a construction site. I asked the manager of construction. Can we have some old wood there? He said, I've got plenty thrown out, it's all by the dumpster. I found this, built it. Notice we put a couple...three screws in every corner.

>>Okay, now does it have to be six inches?

>>No, it doesn't have to be. It could be more if you want. But it doesn't have to be. Any taller than six inches.

>>How about smaller?

>>No. We need six inches to grow our plants.

>>At least six inches, but it can be bigger if you like.

>>Yep. Now we're going to fill this with a perfect soil mix. And you can buy it or you can make it. If you have to buy it, here's the formula for the soil mix. Remember it's a perfect mix, it's got everything in it you want. We don't have to worry about improving or adjusting soil. Can you imagine how long it'd take to prove that soil? It'd take years and years and years and all that kind of hard work. We're going to start first year with perfect soil!

>>Sounds good to me.

>>Okay. Here's the formula: one-third peat moss. One-third vermiculite, and one-third compost.

>>Now can I buy all these at the local garden center?

>>Actually, you can! You just go to any garden center, they'll have them all. The nice thing is if you want to save money, you can make your own compost and it will be better than the one you buy.

>>How do I make my own compost?

>>Well, you start priming up all kinds of plant material that was once growing. Like weeds, grass clippings if they're dried. All the waste from your kitchen—orange peels and...

>>So anything organic from the kitchen I can take out, put it in a heap and then just turns into compost.

>>And you put in some manure and some weeds. As many different things as you can get. The more, the better! And it will start heating up and decomposing.

>>And how long does that take?

>>Mother nature takes over a year, but you can do it in about a month.

>>Really?

>>But you first have to chop it all up (that's a lot of energy), then you have to mix it quite often (that's a lot of energy). So you should mix it at least once a week, or once a month, or once a year.

>>Now why do I need compost in this stuff?

>>Well, compost has all the nutrients in it. And beautiful, natural soil. And with that compost, you don't need any fertilizer.

>>You don't need *any*?

>>None! No.

>>Really?

>>It's all in the compost. So it's put together...

>>So even, like, next year I wouldn't have to add any fertilizer?

>>No, I'll show you later as we replant each square foot, we're going to add just a little bit of compost for it. But if you have to buy it, you don't have it the first year. Then you go to the nursery and they'll say we've got lots of compost, there's a bag, there's a bag, there's a bag. That one's 99 cents, that one's \$4.50. Now which one of those would you buy?

>>I would buy the 99 cents one!

>>Then you get...we need six bags. How many would you buy of those?

>>I'm going to buy six 99 cents bags.

>>Wrong! That's a wrong thing to do. The reason is, that's a waste of product from some industry. That happens to be steer manure. And then that happens to be from the wood industry, and that happens to be from the mushroom industry. So by themselves, they're not good. They won't work in your square foot garden. But if you buy one bag of this, one bag of that, one bag of that, and one bag of that...you're going to have a perfect compost. And you mix that with your vermiculite and your peat moss, and you'll have the perfect soil. That's what we're going to do.

>>Wow, should we put some soil in our box and see how it goes?

>>Remember, take the weeds out, dig the grass out, put a ground cover down or cardboard so nothing comes through it. Put your box down. Build your boxes 4x4 out of any kind of lumber, you can go and buy it or you can go find free lumber. So let's fill it up now.

>>Okay, great!

>>So now we have our soil.

>>Okay, we've put it all in there. Remember, we only have six inches, but feel that soil. Look at that, isn't that beautiful?

>>It's nice stuff. Now what's this white stuff?

>>That's vermiculite. And then these pieces are the peat moss. And you break them up like that, and you level it all out, and then we're going to put a grid on top of this. I brought a couple different kinds of grids. First there's a fancy one, this is plastic (or vinyl).

>>This looks like a trellis, something you'd put on the side of your house.

>>Yes, it's very similar!

>>And you bought his one, right?

>>Yes, I bought this one. If you want something more natural, then I've bought a wood one. Let's look at that one.

>>Okay. And did you buy this one?

>>I bought this one. It's a kit. Or, I'm going to show you how to make your own. See, you just lay that on. That identifies every single square foot. But if you don't want to spend any money at all, you can get Venetian blinds like these old ones. You go to a thrift shop, you lay them down, drill a hole, put a little bulb in there. Or you get some pieces of wood. This is just scrap wood that I found at a construction site. And you can see you could make those up and the cost.

>>Is this the same construction site you got this one from?

>>No, it's a different one. You have to travel around a little bit. You go from one dumpster to another, you talk to different people...

>>So once we've got our grid in, we're ready to plant, right?

>>We've got individual square feet now. So, we're going to, I'm going to show you how to space your plants, and we're going to put a different crop in every single square foot. And I'll explain why as we go along. First, let me get my flash cards. We use these in teaching. And this is the spacing for all plants. One per square foot. That would be a large plant, like cabbage. Four per square foot.

>>So basically I'm going to just plant one right there?

>>Right in the middle, exactly. Yep. And if you're going to do four...then you go like this, zip-zap and there are your four spaces.

>>Okay, we can do that.

>>Good. Okay. Now there are 9 per square foot. And you do that with two fingers like that. There you are.

>>So once we've got these, we know what we're going to put in.

>>Yes, then there's 16. Now you have to know, or you look up how many plants fit in a square foot. So it's either 1, 4, 9 or 16.

>>And we can make this different for every different square?

>>I'll show you how you plant it. We'll just put a pretty flower there, sure. Space these around different places. And we're going to have a variety of plants. Notice we have herbs, and we have vegetables, and we have flowers. There's our 16 per square foot. We have put in some carrots. Do you like carrots?

>>I love carrots!

>>And there's some bush beans. Do you like green bush beans or do you like yellow?

>>Uh, yellow.

>>Okay, then we'll put yellow over here. And I like green so I'll put some green over there. Now notice how pretty our garden is. It looks like a patchwork quilt. And we're limiting the number that we plant.

>>Now tell me about how to plant seeds into this soil.

>>Well, remember, you can put in one for 9 or 16. That happens to be the square of 1, 2, 3 and 4. So it's easier to remember. Where would one go?

>>One's going to go right in the middle.

>>Right in the middle. Okay, where would four go? How could you divide that up in half each way? You go zip, zap, and there's four perfect spaces. 1, 2, 3, 4.

>>Easy!

>>We're going to do nine. We're going to take two fingers like this. And you do it in your corner there. Zip, zap.

>>You just, go right here...like that?

>>Yep! And there's 9 perfect spaces. And we do 16 like this. You just go zip, zap again. Take two fingers, spread them apart, go bing, bing, bing, bing!

>>Okay. So should we plant some seeds?

>>Sure! Show me your...

>>Now these are radishes, right?

>>These are radishes.

>>So what do we need for radish?

>>16 per square foot.

>>16...so I'm going to go...?

>>Zip, zap...bing, bing, bing, bing! That's it. And notice, these two are the same as these two. And these the same as these two. They're all spaced perfectly, see?

>>Right.

>>Now we're going to take the seeds, put them in the palm of one hand; take a pinch of seeds like this, 2-3. See, there are two, there's three right there. And we're going to put 2-3 in each hole.

>>Why two?

>>Well, one may not sprout, so we're going to put two. And one extra. But we're not planting a whole packet of seeds like these two in gardening. As soon as you fill all your holes with a pinch of seeds, you just rub over like that, water that square, and you just finished planting!

>>Is that going to be a problem if two come up in one hole?

>>Yep. We've got to get rid of one of them. And we're going to take one of our tools, a pair of scissors, and we're going to snip off the extra one. And where there's no thinning to this.

>>So you just put them in, cover it up, do you need to water it too?

>>Yes. And an easy way to water, don't get your hose out. You just take the bucket and with some warm water, just sprinkle it over like that. Cover that cup with your hand, and you sprinkle all that water and get it nice and wet and you're all finished! And how much did that cup cost you?

>>Two cents.

>>That one was free! You used it first. And that's all there is to the whole garden.

>>And then we just watch it grow.

>>We watch it grow. Notice all the different things that we have planted, and we just keep planting and re-planting. That's how easy it is.

>>Thank you!

>>Karen Bastow has worked with Mel Bartholomew in the square-foot gardening foundation for years. And has been using the method at home with great success.

>>I became associated with the Square Foot Gardening Foundation about three years ago, and we could immediately see the beauty and simplicity of this method and decided it was time to change. I have gardened my entire life and when we saw this method, it just made so much sense to us, that there's less work, less worry, and our family just has fun doing this!

>>This is a beautiful garden, it really is!

>>Thank you, James! It takes so little work. We just come out and enjoy it everyday. And eat from it everyday.

>>Okay, notice how much room we have to kneel down and work in the garden. Nice, wide aisles.

>>And you could bring a chair in here or something.

>>You could, absolutely! Yeah. Now, here's a square that's all finished, it's ready to be planted. So I want to show you, here's our compost. We take a trowel-full, put it in there and spread it out, and then we just take our trowel and dig it up. Churn it up like that.

>>Now you need to do this every time after you've harvested?

>>Yep, after you harvest. And what you're doing is you're replenishing in the soil. And as you replenish that soil, it's now ready for another crop and we plant there. Seeds or transplants. Now as far as harvesting, look at this lettuce. It's got so many leaves there; Karen's going to take off a few for lunch. And you don't have to wait until the whole thing becomes a large head. You can start cutting the side a little bit.

>>Now tell me what this is, before we go around here, what is this?

>>Well it's a vertical frame. And we're growing any vine crop on a vertical frame. We have nylon netting and anything that's a vine that used to spread all over, starting with tomatoes, squash, pumpkins, watermelon, everything will grow straight up. It's a vertical gardening.

>>What is this here, squash?

>>This is squash. Zucchini is up...

>>Zucchini! And it's just ready to come up.

>>And it's tough to get it to climb, but Karen's going to do it.

>>And if it doesn't climb, it spreads out?

>>Yes, and we don't want it to spread out, it just takes up too much. We want to be just like an apartment building—straight up. Now over here, I see a weed there. Do you see that weed?

>>Look at that!

>>There's one right there. And notice it kind of pops up, see? And that's how easy it is. And notice something else here. Because the soil is so soft, all the root came up. Most weeding done in a garden, it breaks off right there and the root stays and it grows again. Now right over here, we've got some of these planted.

>>Bush beans?

>>These are bush beans. 9 per square foot, and look at that! They're almost...they're all lined up like soldiers, almost. Except there are a couple extra ones that sprouted. Remember, you asked me what if all three sprout? Well you just cut them off. Take your scissors and cut that one off like that, and you're all finished. Now this is only two feet wide, just to give you a different variety. And what we did here, we planted bulbs down deep, spring bulbs. And all this was beautiful tulips and narcissus and all kinds of spring bulbs.

>>Now when you say down deep, do you mean six inches?

>>Well, down at the bottom of the six inches. Put them at the bottom, cover them up. The beauty of that is, as these finish, you know, spring bulbs, they finish and turn brown and then they die and they rest until next fall, when you can plant them again. And what we're going to do is plant things amongst these. And notice Karen's already put in squash in here.

>>So we have crops in the box at the same?

>>At the same time, yeah. Now remember back there, the broccoli, we're going to take the broccoli out as soon as its finished, and we're going to put something else in there, and in the summer, something else, and we're going to get at least three, maybe four crops. Here, we already have two crops going. So we might get easily get four crops in this one box. But notice the size of it. See? It's different. The whole garden looks so nice because you can vary the size of your boxes.

>>So as long as they're not wider than four, they can be any size they like?

>>Exactly, because you can't reach in.

>>Are there any other barriers to getting into square-foot gardening?

>>Well, the only barrier's mental. Now when I talk with old-timers, expert gardeners, they say "it can't be that easy!" Gardening is a lot of hard work! And I said, it shouldn't be hard work, it should be fun! Now how many boxes do you need? Depends on how big your family is, how much you want to garden. But one 4x4 will feed you a salad every single day for the whole growing season. If you want supper vegetables and you have one more 4x4. And if you want something extra and a lot of vertical, tomatoes and stuff like that—or you want to can and freeze it, then one more.

>>You can make dinner everyday?

>>Yeah, everyday. Through the whole garden season. With just two boxes per person.

>>Now are there any other myths or misconceptions about square-foot gardening?

>>Well, I've heard some people say, well its kind of pricy to start with. But then, anything is! You have to buy your wood and you buy your soil. After awhile, we hope you'll start making your own compost. But, that's an initial investment. For example, the wood for one box might cost, oh, about \$10-15. Okay? And the soil would cost about \$20-25. So you have...

>>You can set up the whole bed for about \$35?

>>Well maybe \$40. Let's say \$40. But, that's good for the rest of your life. You never have to replace that growing soil.

>>The other big thing, now, you didn't buy any tools, right? You don't need rakes or shovels or pitchforks. You don't need any of that stuff. You need a little trowel, a \$1 trowel. And the other thing you need is scissors, and that's for harvesting and pruning and clipping up and everything. So for \$3 or \$4 you can have all the tools you need.

>>Sounds really cheap. Can this only be used here?

>>No, actually we're teaching square-foot gardening all over the world. In fact, we've converted into square-meter gardening. And we have a square-meter garden and we use pure compost in all other countries. Because they usually don't have—or can't afford—the peat moss and the vermiculite.

>>And does that work just as well?

>>It does, because that's where all the strength of the soil is and that's where all the nutrients are. The other nice thing is, when you make compost, you're taking stuff that's been thrown away. And you're composting it into a nice soil-like material. Well that means you're cleaning up the environment while you're doing that. So you have a big advantage there of improving the environment in whatever country you're in, at the same time have a perfect soil for growing. Now this is so different from farming. You know,

single-row gardening is nothing but a hand-me-down from farming. When you think about farms, why do they need the big rows?

>>Because these have horses...

>>Exactly, a mule or a horse. They have big hooves and they got to...but we don't in our garden, do we? How big are your feet? You don't need that much room. And that was what's wrong with single-row gardening. It just kept imitating everything about farming. And we don't need that in home gardens. There's a much better way.

>>So you've been doing this for a few years now, what developments have you passed since you've started?

>>Now our foundation is primarily doing humanitarian work. We're working with many other NGO's (non-government agencies). Anyone that sends out volunteers to another country to help them, and we want to train them how to do square-meter gardening, and then they'll take it to all these other countries. Its perfect for any country you can think of, because usually, they're all tropical countries, right? So they have lots of material for composting. And if we can get, we're trying to track the woman of the family, to build one square meter garden. Start composting and play at that, divide it up into square feet, which will give her nine square feet, she'll have 9 different crops to start feeding her children. That will improve the nutrition of the children, and we think that's a much better idea than...

>>Which is good too because you don't have to start with a whole garden, you can just do 4x4.

>>Exactly. Or just a square meter.

>>My wife would be really pleased to hear about the gardening one, because she teaches second grade.

>>Oh great, okay. Well kids love gardening, but they don't like to weed! So square-foot gardening is just for the whole family.

>>Well do you have any final thoughts or anything else?

>>I'd just like to encourage more people to give it a try. And if they do, we've never had anyone say, this doesn't work, I'm not going to do it anymore. Everyone is so enthused, you wouldn't believe the letters we get. But I think the main thing is this can help so many people all over the world!

>>Its easier than I thought! But before we go, let's just review a few of the simple things we can do to make sure we cultivate a successful square-foot garden. First, its always better to make your own compost. But if you buy your compost, remember to get a blended compost, without any seeds or other organic material that might lead to weeds. Next, be sure to make a permanent square-foot grid for the top of each box. That way you'll always know how many vegetables you can plant in each box. Also remember to water from the bucket that's been warmed by the sun. Warm water can actually help the plants grow faster and stronger. And finally, remember there's no need to use fertilizers if you start with that perfect soil that has all the nutrients already inside. And that's all the time we have for today, but for more information on this and other episodes of HomeGrown, or to order a copy of the series, be sure to log onto HomeGrown at www.byubroadcasting.org. And remember, everything's better HomeGrown! Goodbye.

>>On an upcoming episode of HomeGrown, we'll learn how to grow barrier-free gardens. What exactly do we mean by barrier-free gardens? Well we'll check in with horticultural therapist Jeanne Robert at the Chicago Botanical Gardens. To find out, and to learn how to build, plant and maintain all sorts of container gardens, that allow folks of all abilities to enjoy the pleasures of vegetable gardening. Be sure to check it out.

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