



Season 1 Episode 4—Starting Seeds Indoors

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Announcer

Welcome to the *Southern Ground* podcast provided by Alabama Extension, through Auburn University. Extension educators Shane Harris and Dr. Chip East discuss seasonal lawn and garden topics, address common questions, and provide the practical solutions you want to know. Let's dig into our southern ground.

Shane Harris

Hello folks, and welcome to Southern Ground. I'm Shane Harris and joining me is Chip East. We're back with you again for another podcast to address some of those seasonal topics and answer your questions. And also just to provide some education.

Chip East

Or maybe we say something that somebody is interested in learning from what we say.

Shane Harris

Well, we're going to talk about starting seeds indoors. And what that means is basically growing your own vegetable transplants, growing your own flowers. That's a popular thing to do, in late winter, early spring, especially if you got sort of spring fever. This is something you can do inside, even in those winter months.

Chip East

Yeah. So one question I always ask people is, why do you want to grow something inside? Why are we growing our own transplant? And there's several reasons why. But why would you grow it rather than just buy it from a nursery? These nurserymen do an outstanding job. To me, money's not part of it because it's very expensive to grow our own inside. So there's got to be other reasons.

Shane Harris

Can't garden a lot of stuff outside because it's too cold or out of season. As horticulturists as we like seeing things grow.

Chip East

Yeah, I've got plants growing all the time inside, and that's... It's fun. But one reason I think someone would do it is to find a, we can say variety or cultivar, but find a plant that we can't get from the nursery. So, it's a... there's so many when we look at these seed catalogs and all, there's some of them that's there's thousands of tomato seeds. Which one do you want to grow? I don't know, but at the nursery they may only have 5 or 6 different ones. And there's thousands to choose from. Well, the only way to grow or to eat certain ones is to grow our own transplants.

Shane Harris

Well, and that's part of gardening; part of gardening is trying new things. These seed catalogs advertise a lot of new varieties, new cultivars, beautiful pictures, right? They're always attracted to the pictures of those tomatoes and peppers and corn and squash. And hey, those there are a lot of different varieties of cultivars out there. And the beauty of gardening is trying, testing something. Some things fit better in the South. Some may grow things better in the North. But one beauty is just seeing what works.

Chip East

Right? And what works for you and what you like. I tell you on taste. And we've done a lot of taste test over the years with different crops, but what one person likes may not be the same thing another person likes. And so someone says, oh, this is the best. Well, maybe for them. I don't...but for you, you might want something else better.

Shane Harris

And you're correct. The retail stores a lot of times are very limited on the choices and availability, in some cases even seeds. When you go and buy actually want to buy seeds, to direct seed and in the garden or in the flower bed, a lot of times, the things that you were growing several years ago, you can't even find them anymore.

Chip East

Right. And I do want to take up for them a little bit. And they can't physically have 10,000 transplants from 10,000 different varieties of tomatoes. There's.. there's more than 10,000. But you go there, they got 5 or 6, or even if they had 10 or 20, that's not a drop in the bucket compared to the thousands that are out there. They can't have them there.

Shane Harris

Yes, they're putting on the shelf what is the most popular based on sales.

Chip East

And nothing... the most popular is usually something good to eat, so that's not a bad thing. But there are other characteristics that we might be looking for other than taste or for whatever reason. We can talk about several of those reasons why. But for whatever reason, there might be another variety we want to grow.

Shane Harris

A lot of people will say, "I'm going to do it because I'm going to save money". If I grow 100 transplants, if I need that many. And that's the other consideration. How many, how many do you need at one point? If you want to grow a lot of flowers and, you want to do several, several seedlings. But do you need 100 transplants of peppers, 100 transplants of tomatoes? Do you have space? Do you have the time for that as well?

Chip East

It cost a lot of money for our trays, our soil we use, our media, our fertilizing them, the lights. I've got grow lights on a shelf. It.. it's \$100 a month if I got them all burning. I don't know if it's a hobby or we're selling something, but it costs money to do it. And to tend to it after we get them started is tough. I look at them every day.

Shane Harris

So, let's rewind the calendar just a little bit, depending on when you listen to this podcast. And this can really be based on what you want to grow. If you want to grow tomatoes, if you want to grow peppers, you want to grow marigolds, you want, whatever, flowers. You want to back up the calendar when you want to put them in the ground. And so a lot of the audience may be from various parts of the country, not necessarily from Alabama, but for our Alabama folks, our growers, where we're based of. We would back up for six weeks, eight weeks when we would actually put them in the ground. But you need to know a little bit about that particular crop so that you can anticipate that timing. Those retail stores, they know when to put it on the market. They're backing that up and putting that in the greenhouse and growing them based on when they want that availability to show up. A lot of time it is because of spring fever when people want to plant. So, if it's in April and here Alabama, most people put things in the garden from a vegetable standpoint in April. Let's back up 4 to 6 weeks at the minimum, probably, to think about we need to begin something inside.

Chip East

That's correct. And a crop like peppers might take more than seven weeks or so. So we may need to back to eight weeks and plant our peppers and five, six weeks and plant our tomatoes. And if... if it's squash and watermelons and a lot of things that have a bigger seed, they don't take as long. So I'd hate to plant all those seeds the same day because this will be ready but this other crop is not. And of course, it's still cold outside. And that's something we're up against too. We're guessing when we're going to plant our garden outside, but we don't know when that time comes and we may have to hold them another few days because it's too cold. And

again, it's not just how cold it gets this day or that day. It's the soil temperature. It takes time for the soil to warm up.

Shane Harris

And that was another reason to grow transplants... is you're getting a head start. If you can have something that's already up 4 to 6 weeks and of some particular size, that's time. You're getting ahead of yourself and versus doing direct seeding.

Chip East

You are saving time. And that is true. I will say. I know farmers that they'll plant tomatoes every couple of weeks all summer long because they don't want to all come in, and it's hard to sell that many at one time. They want them coming in all summer long, so they plant them all summer long. You have to tell the nursery when you want that first crop. So here they are. They grew them. They're ready. We plant them. It's a little bit cool. The soil is cool. A couple of weeks later we plant more. A couple of weeks later we plant more. Often times what they plant second comes in first. Just because we plant it early doesn't... It just depends. And, sometimes what they're planted first comes in with what they planted third, for instance. So the weather has to cooperate with you as well.

Shane Harris

So if you're considering doing this and this is a great hobby to start your own seeds. We both, Chip and I both have done this. Spent a lot of time. It is fun. Is... is definitely a challenge. We probably don't save a lot of money, but it does give us something to do and maybe even something to share with our friends or colleagues when we have too many plants sometimes. We hope you will be successful, in growing and starting your seeds indoors. So let's talk real quickly, Chip. Let's dig deeper into the type of materials. What equipment? What facility? What location? What environment do we need in order to grow, grow our seeds and doors into so that we can have those healthy transplants? I want to start first with media. Goes back to us talking about on previous podcasts about this. The soil has got to be right. The media, the growing media also has to be correct.

Chip East

I always tell people to buy your soil rather than just get... can I say the word dirt... out of the ground and plant in that. There may be disease in it, seeds in it. May not drain the way we want it to be. I would want to buy my soil that I'm going to be planting my seeds in. And when you go to the nursery or wherever you're to purchase this, you'll see bags of things and it'll say written on this bag. It might say seedling mix, or it may say potting mix. What's the difference? It kind of looks the same. Well, a lot of the seedling mixes are finer and the potting mixes have more coarse material in it. Sometimes it's a secret to what's in the bag, you know, they don't tell you all the percentages that's in the bag of the different ingredients. But a seedling mix will be a finer mix. And not saying you couldn't pot out in that, or vice versa, but buy the seedling mix if we're planting seeds. The coarse mixtures may dry out faster.

Shane Harris

So you need the proper growing media. And then we also have to have what are we going to put it in? Most people use trays of some sort. Those are usually, I don't know, 11 by 22 trays. You can do direct seeding into that media or people like do you sell packs. Sometimes those trays will hold around 72 cell packs. It's just your preference if you want to do direct seeding or have those into individual transplants.

Chip East

I know people that plant in styrofoam coffee cups and things. It just depends on what you have and what you have access to. And a lot of times we do reuse our pots or containers over time. But yeah, it can be planted in a lot of things. Years ago, they're planted directly in a bed, dig them up and plant them as bare roots. But everybody, I really like the individual pots. That's a lot easier when we go to plant.

Shane Harris

You're buying materials online or retail store. Lot of them are sold as little, hobby greenhouse, humidity domes. There's different brands out there that give you that. Basically you have a tray and you have a greenhouse or plastic cover. That's important for, for later on as we, as we talk about humidity, in order to germinate those seeds. You got to have the right media and you got to have something to put to the in, in this case, the trays are nice and convenient, especially if there's a cell pack that you can pull those transplants out, at a later date. There's a formula to be successful. You got to have the correct soil media, designed for growing seedlings. You need a tray or a mini greenhouse type setup. The next is going to be light.

Chip East

That's why a lot of people have a greenhouse. Because we get light. They don't have to add artificial lighting when you have a greenhouse. Light comes in from the morning till dark; we're getting a light. But in our house, even in a window, as the sun rises in the east and sets in the west, it don't always come through with the same intensity through this window. So really, I don't care if we have a window or not. I'm going to put grow lights over my plants.

Shane Harris

And that's really important, folks, because we get a lot of people that will grow transplants and put them in a southern window. They may come up successfully, but then they get leggy and begin to reach toward the window and they fall over and they're not successful. And the reason they're not successful is because it does not get enough light as Chip just explained.

Chip East

Yeah. You can look at your plants and, the part where the leaves are, we call that the node. And the part from this leaf on the stem to this next leaf, we call it the inner node. They'll have long inner nodes. The leaves are far apart and we call that being tall and spindly is the term we use a lot. Well, fertilizer doesn't help that. Light helps that. And again, a lot of people say, well, I'm going to build a greenhouse. What kind of greenhouse should I build? Those can be tens of thousands of dollars and cost a lot of money when we go to heat them. That's why

we're talking about doing this in a room you already have in your house that's heated. We're just adding an additional light.

Shane Harris

You're supplementing that light. These transplants folks need 14 to 16 hours a day. You could put this, you can put this on top of the refrigerator where it is warm. A lot of people will do that. But you still have to supplement light. You could do it in a closet. You can do it in another, in a spare bedroom. You could do it in the basement, but 14 to 16 hours of direct artificial light, something like a grow light or a shop light is ideal.

Chip East

Grow light. What's the difference for a grow light and a shop light?

Shane Harris

I would say expense.

Chip East

Well, if you had, if you could get either one, I'd rather have a grow light. A grow light. If you had a prism and held it up to grow light, it should put off the red, orange, yellow, green, blue, indigo and violet. you know. You should see that spectrum. That's what the sun puts off. Well, with some of our other lights, it may only be red, which is fine. It's... it's okay. I'd rather have a grow light, but the grow lights are expensive. I won't lie about that. They are not... they're not outrageously expensive, but it is something different than you. You may already have a shop light.

Shane Harris

I'm a cheap gardener, so I'm gonna go for the deals. Especially if you guys have a bunch of these.

Chip East

And we do. The intensity is a lot. Just a room that you would normally sit in in, you know, have supper. That's not enough light to grow the plants, especially if the plants sitting on a coffee table several feet below that light. And that light is in the ceiling. It's not enough. I have a shelf and I put my plants on the shelf, and then on the top, the shelf that's above, I hang my lights under there. So the bottom of this shelf is where I'm hanging lights for the top of the one below. And my lights are on a chain. And as the plants grow, I take a link up out of the chain. If and I want them within a few inches of the plant. As the plants grow, I'll take a link up out of the chain, you see. So that's why I like the chain rather than something stationary. But if it's further away they don't grow well.

Shane Harris

The other thing they've got to have the other important ingredient is temperature. Now we can talk about this all day, about growing seeds outside. A lot of people complain... "why come my seeds didn't come up? How come I didn't come up out in the ground, in the farm or the vegetable garden?" Well, seeds have to germinate

at a certain temperature. And so we also have to supplement temperature or warmth to get those seeds to germinate even in the soilless media that we've done inside the house or there in the basement. Especially basement... basement or cellar is going to be cold. An outdoor building is going to be cold. Might be a little warm on top of that refrigerator, but a lot of people will use grow mats to actually heat the bottom of that to provide the temperature. And it's the recommended temperature for growing seedlings is between 65 and 75 degrees. That's not a good outdoor temperature for in the middle of winter or early spring.

Chip East

It's hard to get that temperature in the middle of the heat of the day, but at night it certainly drops below that. And again, in your house you may keep a temperature like that. That's great. But when you're outside again, that's why I'm talking, we're talking about growing them inside because of that temperature. I don't worry about the temperature in my house. It stays the right temperature. But I used to do this outside and it was a big deal about keeping it warm. And you're right, they make the heating pads, mats that we can put under a seedling tray, but the ambient temperature is still cool. And it just I guess it depends on where you're at. I, I kind of discourage doing it outside in early spring. And in the middle of the summer that's fine. We can start them outside as it warms up. But early on I worry about the temperature. So yeah, I like I like doing it inside the house. And you're right, it can be cooler than 65. I mean, some things I mean 60s okay. But yeah, 65, 75 is not bad for most things.

Shane Harris

Speaking from experience, that temperature is very critical. That's one major ingredient that you've got to supplement. It could be from, heating it from the bottom. But also those grow lights provide a little bit of warmth from the top as well, especially in that that greenhouse chamber dome that you've created. So you're getting light and warmth from both sides. And that only improves your odds of getting some germination.

Chip East

It does, you know, make that meter turn on your house. But when I have, all those lights running, when I open that basement door, I think it's about ten degrees warmer in there than they need than the rest of the house. And, that's even with LED lights. It's it can get warm, and it's not too hot for the plant. It just cost you money. And that's again going back to... I want to have a good reason to grow my transplants, because I promise it's going to cost me money.

Shane Harris

The other ingredient that you gotta have is water. Now we're leading up to a very important element to get these, these seeds up. So we've got light, we've got the proper temperature. We're growing in the ideal soil media that we've purchased. We've got to moisten that soil. You've talked about how well it could drain and dry out. But we've got to make sure we have moistened that soil properly, even at direct seeding.

Chip East

We do. And it's got to be moist to start with before I even plant my seeds. And it's, it's kind of interesting. In your house it's dry and when it's dry they... again the soil dries out faster than it would if we were outside. So I do got a watch that. I can pick a pot up if it's in a plastic pot and kind of tell how moist this by the weight of the pot. As you do it, over time you'll be able to look at the soil and say, well, that's a... that's a lighter gray color instead of being darker. I bet it needs water. And you might be true, they make moisture meters, but you can stick your finger in it and feel for moisture. But you'll learn over time. I will say most people kill things by overwatering. We just think a drop of water goes a long way on a native azalea, for instance.

Shane Harris

Especially once the seedlings have come up.

Chip East

And then you think about it being in your house. How do you water when the water drains through the pot? Now, we haven't got fertilizing yet, but water needs to drain through. You have a... we call it a salt build up, but it needs to drain through. Okay. Where's the water going to go, besides on my floor when it drains through? So I've got trays I put these pots in when I water. I'm collecting... the water is coming out and it's being held in a tray. Then eventually I have to empty the tray.

Shane Harris

And what we're trying to create here is the most important element to get success. And because the success is we want these things to germinate. So we've got to have light, we're going to have soil, we're going to have temperature, and have we have to have water. And that equals with a covered dome or greenhouse cover. Humidity. Humidity is that special element. If we don't create humidity, we are not going to get germination, at least not a lot of germination. How do we get that germination? It is that lid, it's that cover of that mini greenhouse.

Chip East

When we plant a seed, we plant a seed 1 or 2 times the diameter of the seed or depth. So if you're planting a coconut, it's going to be a whole lot deeper than that tomato seed. Well, if you're planting a large seeded plant, it's deeper than small seeds. And there's some, like Shane, both we grow native azaleas. They're so tiny. Sprinkle them on top of the soil and water in and that's good. That's deep enough. And you put soil on top. They're too deep. So I do like to cover tomatoes and a little bit. But yeah certain crops it's tiny. We don't cover. And yes, they gotta have the humidity or they're going to dry out. So yes, we put a dome over those and you can buy these storage boxes at the box stores that you can make your own. I'll call it a humidity chamber. You can make them or buy them and some of these boxes have gaskets on them even; I like those better. They won't dry out. Just keep in mind it is dry inside your house and it... they will dry out faster than if it were outside. Obviously, outside is cold, we don't do that, but it dries out inside your house faster.

Shane Harris

We're trapping the moisture inside that little greenhouse or humidity dome chamber like Chip mentioned, and going back to the type of materials that you use, the type of trays, you can use a plastic salad bowl with a plastic cover, chicken rotisserie container. You can use all kinds of things. You can use plastic wrap.

Chip East

I've draped plastic over a nursery pot. I've used a soda bottle as a humidity chamber.

Shane Harris

I like the free stuff, anything that's free and holds that moisture in will germinate a seed.

Chip East

It kind of depends on the numbers being propagated is the thing. If they're on a small scale, there's you probably got things at home in the trash can that we can use. Now in a nursery, it's a bigger scale. We got a lot we might do differently. But yeah, humidity chamber. They'll they have them built too. They built them out of big plastic. They have shelves and they cover the whole shelf with plastic for instance.

Shane Harris

That is the secret to getting the seeds to germinate. You got your media, you got your light, you have the correct temperature, you have the moisture of the water that you've put in the soil prior to direct seeding. You'll need water later on once the transplants come up. You've created the humidity. Now, you need patience, a little time and get ready for those little seedlings to germinate.

Chip East

The plant taking in water is the first stages seedling germination, so yeah, we're waiting for that to happen. And of course, most things don't need a light to germinate. Some things do, but most things don't need light to germinate. But I want my lights ready for when they do germinate. They're ready to grow.

Shane Harris

All right. A couple weeks later and it's hard to give an exact number if it's two weeks, three, three weeks, two weeks or three weeks, depending on the type of seed you're growing. The seedlings have emerged, they're coming up, Chip. Now what do we do with them?

Chip East

Well, once we have our first, I'll call them true leaves. The first two little leaves you might see are called cotyledons. And that's feeding the plant before the true leaves grow. And you can see this on a tomato or bigger crop. Some native azaleas.. is a certain tiny things. It's hard to see this on. But you can see it, I've got pictures. But, once we get our first true leaves, we can start fertilizing. And I say fertilizing and all, I'm looking at the weather, too. And the temperatures and what time it is. If I'm really wanting to push them, I might fertilize a little more, but I really just want to keep them alive till I think, and green and growing. But when I think I'm warming up, I'll up my fertilizer a little bit. I will say I like to fertilize weak, weak, weak fertilizer and just give

them a little bit. Now most people do too much and you'll burn them, and I can always tell if they're burned. The tips of the leaves will be burned. And my first thought is, well, we, it could be wind damage if I was driving them down a highway now. But when I see them in that, seedling tray in the nursery and they got burnt tips, my first thought is too much fertilizer, too strong of a fertilizer.

Shane Harris

The other thing, once they've come up as they start to get a little size. And this is where you have to experiment. We've got different experiences from different type of plants. You've got to take that greenhouse cover off. Yes, those seedlings eventually outgrow that. But also you don't want to continue to trap moisture in there too long. Plus you also have to water. So this is where that balance is from experience. You take the tray cover off, that plastic cover off, they're going to begin to dry out. Then you've got to supplement water. Keep that cover on for a while to protect them, they could get too hot.

Chip East

Disease can build up too under that cover, you know, and have problems. So you're at once they germinate and they have roots of their own., we might not need that cover. And I would rather that cover be off sooner than later.

Shane Harris

That's where you really need to watch and experience, depending on what you grow into, tells you if you need that or not. I tend to keep them on a little longer maybe than the normal recommendation, just from a protection standpoint. Because, Chip talked about this briefly. Now we got them up. Hey, we're doing great. We can brag on ourself, pat ourselves on the back... The next step for success is you got to keep them watered, keep them watered. Because now that they're getting the ideal temperature in the room, that light's beaming down on from that shop light or that grow light, they're on top of it. They're doing well. They will dry out because that soil is designed to dry out and not necessarily hold a lot of moisture. But if it dries out, we can be in some danger.

Chip East

Absolutely. Once that plant starts to wilt we got a little time. But yeah, we don't. That stresses a plant. We don't want that to happen. People ask sometimes how often should I water and you water whenever it needs it. The problem is this plant may need it now. This other plant may... may need it in four hours. That's tough to do when you only see them once or twice a day and all. That's why those good nurserymen, they're there every day watching and all this. That's important. But yeah, you'll learn that when they're young, they obviously don't need as much water. But that does change as they grow. It changes if you've got different houseplants in your house, and this one's over here in a room where it gets more wind, I mean, it might be a ceiling fan or by the back door and you walking by in the wind. Yeah! They dry out faster than this plant in another part of the house. So it's the same thing in that.. I'll say humidity. That seedling, my shelf where I'm growing plants. I've got plants that I planted at different times. Obviously, they're different sizes. Well, they get watered differently. And

yes, it's aggravating, but that's.. I'm trying to give them what they need. I don't water everything at the same time.

Shane Harris

One issue that you and I both have faced is, we've learned over the years, is those seedlings are real sensitive and tender. A lot of overhead watering, spray bottles and things like that provide a lot of weight. And so if those seedlings are sort of lanky, they're stretching toward that grow light or artificial light that you're provided, they can easily fall over. That's not good. You've got a weak seedling that's now bent over, broke, may not stand up, may turn out crooked. And they need moisture. So, what we would suggest is watering from the bottom. And there's ways of doing that too. But water from the bottom and using that wicking method tends to work a little easier.

Chip East

I have a watering can with a long spout that I water with, and I like that so much. I'm not raining on them, water never touches the leaves of the plants. I put water to the soil and that's where the roots are going to take it in at. And that's how I water everything. I haven't watered, never touches their leaves until I move them outside.

Shane Harris

Testing it, see if it needs moisture or not, use the weight test. That tray is real light. You know, there's not a lot of moisture in that soil. They need to add... you need to add supplements of water.

Chip East

I've had people bring plants to me, Shane, that's dying and they'd say, "what's wrong with this plant?" They'll bring it in. Depends on how big a pot it is. But I can tell when I pick it up. You've watered it way too much. Unless you have a bunch of gold in the bottom of this pot. It's so heavy. This is the problem. And, yeah, more people overwater. I, I mean, I don't want one to wilt, but I'd rather it wilt than stay too wet.

Shane Harris

Now, fast forward a couple weeks. Plants are growing good. They're getting water. They're getting the light. We're raising that grow light, shop light, higher each time as they get bigger and bigger. Now they're beginning to get about six inches long. We're starting to think about what... what do I do with them? Do I need a bump them up? Do I need to move them outside? In my opinion, next step is to transplant them, take these transplants and move them into some cups or other area, or move them directly outside, depending on what the size may be.

Chip East

The.. the root area, that the size pot that we let it grow in is going to determine how tall or large that plant is. Now, moving into a bigger pot takes up space.

Shane Harris

A lot of times we don't have the space.

Chip East

That may be a limiting factor for a lot of people. If I think... if it will survive outside, that's fine, put it outside. But what if it's still cold weather.

Shane Harris

Or had a lot of success? They've shot up well. Maybe we've over fertilized them. These things are now ten inches tall and out growing the space. They're hitting the light. We've got to do something with them.

Chip East

If I think it's still cool, I start slacking off on the fertilizer and I quit fertilizing. I just want them to sit there. I mean, they won't. They're going to continue to grow some, but I'm certainly not going to push them. So yeah, I may slack off. We can put them in a bigger pot. I love that I idea. It's a nice plant, but it takes time and space. And then you got a water more. That's a lot to do in a... in a basement or in your house.

Shane Harris

You have to get more growing media, takes a lot of room, a lot of time.

Chip East

It's more money in the long run. And again, that's why when you see nursery and say, well, this plants is X dollars and this one over here is twice that much, well, it's probably in a lot bigger pot. And somebody spent more time and money on that plant.

Shane Harris

If you got the time and can do it, you'll get a bigger root system. It'll get, grow faster and get established a lot quicker outside, too.

Chip East

I like a bigger pot. It just cost time and money.

Shane Harris

Now is the time to go outside. Hey, we got to do something with these plants. They may be ten, twelve inches tall. Here's the critical side. And this is... I'm talking from experience. My first year doing tomatoes, I put them outside. Those rascals wilted. These are babies. They're used to a confined area that's protected. And when you put them outside, they're in direct sun, the wind, the cold possibly. But what got me was the wind. It begin to whip them and they wilted on me.

Chip East

If they had a larger root system, you know, that might not have happen. But again, they got a small root system in that little cell pack. So yeah, it helps. And again, we go back to where we had more organic matter in our soil, and a drip system and... Right! But yeah, we can we can plant those in a bigger pot and they wouldn't wilt like they would in a smaller one. But again if you just watch it after you set them out, we can take care of the problems. But yeah, that's going to be a problem.

Shane Harris

Ideally, slowly introduce them to the elements.

Chip East

The sunlight... I like to take them out of the house, put them in the shade. We call that hardening them off. Harden the plant off. Well, we put them in the shade for a while and introduce some more sun, even before they go in the ground. Obviously, our garden might be in the full sun, but we'll, shade outside is kind of like a sunny window inside to me. So put them there first and slowly move them there.

Shane Harris

Chip. Another issue... problem. And you learn as you go, you learn through experience. Let's talk about a disease that can wipe them out. Maybe the entire tray. That's called damping off. Hey these seedlings looks good. Suddenly they just fell over.

Chip East

Damping off is a seedling disease. It looks like somebody pinched the plant near the soil line and the top part of that plant will just fall over. And you'll think something... did a rat bite that into? But it looks like somebody pinched it almost with their fingers.

Shane Harris

It's almost like a thread for a tomato. It's supposed to be, I don't know, eighth of an inch in diameter. This is thread like.

Chip East

Yeah. And it... it really goes back to too much moisture and in overwatering. So you'll learn that with time too. Everybody will get damping off at some point.

Shane Harris

And that's that surface... going back to that surface there on the base of that plant staying wet too long.

Chip East

I'd rather be a little bit dry than too wet.

Shane Harris

And that's another reason to water from the bottom.

Chip East

And I will tell you, when I water, I do soak them, I do wet it. But instead of watering a little bit all the time, I'd rather wet them good. And then I hate to tell you how many days apart that is, but it all depends on your situation as how fast it dries out. But watering a little bit all the time is going to make them stay too wet and again lead to damping off.

Shane Harris

So you've slowly introduced them outside. They've been exposed to the elements. They're ready to go. The calendar says it's time to plant. Hopefully last frost is passed. It's time to move those tomatoes, those peppers outside. It may be getting time to put out some spring flowers. Hey, they're ready to go the ground. You've had success.

Chip East

When... when that soil warms up, I'm ready for them to go in the ground. We'll tend to them a lot less in the ground than we do when they're in that seedling tray. When it starts warming up, and again, it's the night temperatures I'm concerned with. How... how warm it gets in the day, that's great if it warms up. But if I'm still getting cool at night... I'm going to wait a little bit longer. But once that soil warms up, I'm ready to plant. It's less work on me.

Shane Harris

Chip, we've had another great podcast here on Southern Ground. We've dug deep into starting seeds indoors, and hopefully we've explained to the audience this process. We've got lots of workshops coming up. We've got, always videos and online publications, not only through the Alabama Cooperative Extension System, but also resources nationwide, especially through our fellow Extension Services, through these... through our land grant universities. For more information on starting seeds indoors. You and I both grow transplants. We have a lot of fun with it. Lots of challenges. Sometimes they work, sometimes they don't. But we've at least learned through the process.

Chip East

Well, when you make mistakes, you'll learn from that Shane. So yeah, we've made a lot of mistakes over the years as well. And we, we... we know a lot because we messed up a lot.

Shane Harris

Once you learn all that you can come back to do a podcast just like we have.

Chip East

Yeah!

Shane Harris

We want to thank you all for listening to *Southern Ground* and, as we've, as we've addressed some of those topics that you may find interesting and beneficial, we hope you'll continue to listen to us. For more information, look at our website www.aces.edu, spelled out A C E S dot edu. That's the Alabama Cooperative Extension System for more information.

Chip East

Great job Shane.

Shane Harris

Look forward to seeing you on the next podcast. Thanks for listening to Southern Ground.

Announcer

Southern Ground has been a production of Alabama Extension at Auburn University.