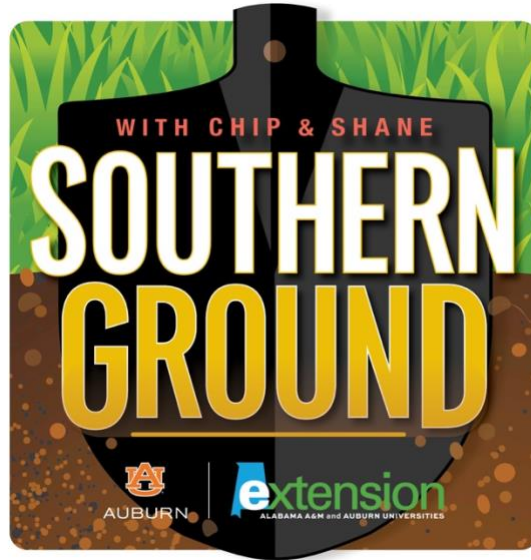




Season 1 Episode 17— Fungus Amongst Us

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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 in to our southern ground.

Shane Harris

Hello everyone, and welcome to *Southern Ground*. This podcast is sponsored by the Alabama Cooperative Extension System. I am Shane Harris and joining me is Dr. Chip East. Chip, welcome back buddy.

Chip East

Hey Shane how are you today?

Shane Harris

I'm doing very well. Very well.

Chip East

Good to be here doing another podcast with you my friend

Shane Harris

It is now summer. It's getting hot. When we started this podcast back earlier in the year, it was nice and cool and calm. Now we're going into the season where it's warm, it's hot, we get thunderstorms. Today's topic is very fitting for Alabama because we have all this humidity and moisture, and there's fungus among us, Chip, lots, lots of fungus among us here in the state of Alabama.

Chip East

We talked about that earlier in the year, and we need to be watching out for these diseases. And you don't think about it when it's cold and the conditions are just not favorable. You get to growing those crops in the summertime, and we start seeing spots, and we think, well, that spot might be hurting my plant growth, might be hurting my production, and that's the truth.

Shane Harris

So, Chip, today we want to talk about the fungus, the fungi, the plant diseases that we commonly see in Alabama on our plants that comes up on our crape myrtles, on our roses, some of our vegetable plants, even in the lawn. We have lots of fungus disease issues, this time of year. And part of that is because the conditions are so favorable for the development of these common diseases that we see all the time, and where we get lots of phone calls from.

Chip East

It's important to think about why we have these issues. If I've got a leaf spot, and I'm in the shade. If I've got a leaf spot and I'm overhead irrigating. If I've got a leaf spot and my plants are so thick, I've planted too close together or I haven't pruned them properly. If I don't have air circulation. These are reasons that lead to leaf spot development. And once we have the leaf spots, we can't make a spot go away. All we're doing with a fungicide is preventing that spot from moving to a new leaf. So, really we call them preventative fungicide sometimes. Well, we're preventing them from attacking a new leaf basically. That leaf that's already infected is going to be infected. It's not going to go away. We're protecting our new growth.

Shane Harris

So, the plant fungus, they thrive in that environment you described. We looked up to have a proper definition: high moisture, poor air circulation and the moderate temperatures. In Alabama, we have a high humidity. We're known for the high humidity. We're known for those afternoon thunderstorms, where that moisture that you go out there, and you're sweating throughout the day. So, the conditions are favorable for these things. And so, we want to cover some of these. Let you know that the conditions are favorable. Anticipate it. It's not about if you're going to get it, it's a matter of when you're going to have it. You're going to have for example, powdery mildew. You may have a large patch on your lawn. You may have rust on your vegetable plants. You're going to have black spot on your roses. You're going to have Cercospora leaf spot on your hydrangeas. The conditions are favorable for these fungal diseases in the state of Alabama.

Chip East

I think that's important to note, Shane, that certain plants get certain diseases more than others. And if we knew this going in well, one, we could choose a different plant. And there's nothing wrong with taking one that's causing you problems out and replacing it with something that is lower maintenance. And to me, maintenance means if I've got to spray a fungicide, then I could plant something else and not have to spray. I mean, there may be a reason. You think, well, this is prettier that's fine. But just know we got to maybe put up with a disease. I know when we grow pecan trees, we're going to have pecan scab. That's real common. We know when we have peaches, we're going to have brown rot. That's real common. That's just part of it. So, if you don't want to do that, and nobody wants to spray, don't misunderstand.

So, it's a lot of work. But maybe we could choose a different crop with less maintenance. So that's just choosing another plant to start with. That's important. So, what if we've done that, and we still have leaf spots. Well, shading. We need sun, so maybe we can do something. Now, I'm not saying cut all your trees in the yard. If something can be done for a plant to get more sun, maybe we can limb up a few trees, but maybe we can just plant it in the sun to begin with. That is something that can be done. Air circulation. These diseases like poor air circulation. So, if we can improve air circulation, how can we do that? Well, it may just be where we plant it at has a lot to do with it. If your neighbor has a fence, or it's planted next to a fence, we know no wind is coming from that direction if it's a wooden solid fence. So maybe we're spacing our plants out instead of planting them three feet apart, maybe we plant them five feet apart or six feet apart. It depends on the plant, but our plant spacing can have a lot to do with that. And you mentioned something, Shane, the rain. It's just we live in the South, and we get a lot of inches of rain a year.

Shane Harris

You're going to have the thunderstorms. You're going to have the afternoon showers. You go out there and spray that fungicide on a plant, and the next day it's washed off by the afternoon thunderstorm. Or they can reach that high humidity from the excess moisture. The conditions are favorable. You can't control that, but you can control watering the plants overhead. And we even talked about this with Dr. Sikora on plant diseases with the tomatoes. Water them at the base. You have to water that grass, unfortunately, by overhead irrigation. But any kind of plants that you can water at the base and not get that foliage wet will limit the conditions for the development of that fungus disease. So, we've heard specialists say it is best for the leaves never to be wet, so that we cannot have those conditions for the fungi to develop. But in this case, limit the overhead watering as best you can.

Chip East

Roots do a phenomenal job at taking in water for that plant. We do not have to wet those leaves, and if we're in a situation where we're doing that, if we have a lot of disease problems, I would certainly limit the overhead irrigation. I'd love to eliminate it. But when we're watering the grass, Shane, there it is getting, the mist, is getting on a shrub over here that I might not want it to. Well, maybe I can move that shrub. If I have to do it, then let's water early in the morning so that it can dry out during the day. I don't want to water late in the afternoon. That goes for grass, too. I don't want to water late so that the leaves are wet all night. I want them to dry off. I want water to get to the roots, but I don't want the leaves to be wet all day.

Shane Harris

So, let's talk about what you're seeing in the yard. A fungal disease. About 80 something percent or so of the disease that you find in your vegetable garden, in your lawn, in the ornamentals, even the fruit orchard is typically a fungal disease. You may see the sign, which is actually the fungus spores. Powdery mildew is a good example of that. When you see that white coating, that powdery coating, on the crape myrtles, on the squash, even on maybe a rose or other ornamental plants because powdery mildew does get on a lot of different things, you're seeing the actual sign. You're seeing the fungal disease itself. If you see a leaf spot or a bad spot or dead spot in the grass, you're seeing the symptom. You're seeing the effects of that disease out there. Most of the time you're seeing the results or the effects of the disease. You're seeing the leaf spot. You're seeing the grass die. You're seeing that blackspot on roses. You're physically seeing a leaf spot. That is the symptom. That is a result of that disease being there.

Chip East

And the signs, Shane. The disease itself travels faster than the symptoms. So, once we see the symptom on this branch, it's probably on the branch above that one. A lot of times with the splash and it goes from the bottom up, not always, but it could. That disease is already on another leaf. We just haven't seen the spot yet. It hasn't developed. It's already there. So, if we're doing a fungicide treatment, preventative treatment, we've got to start long before we see the symptom.

Shane Harris

Chip, when we get these phone calls about fungal diseases, my grass is dying, I've got this leaf spot, I got this problem, and we say this is a fungal disease, then we go about telling how to treat it. Some of the responses we get is, where did this disease come from? Can you explain to our listeners why we have fungus among us?

Chip East

A lot of things can spread it, but it's just so easy, we can always blame it on the wind. The spores can go through the wind. Rain splashing, we've mentioned that earlier. Air currents. Airborne pathogens typically attack the above ground portion of the plant. And those are things like powdery mildew and rust. If you think about a nursery, and nurseries do a phenomenal job, but plants are grown close together and they are overhead irrigated a lot. Sometimes I have known them to come from a nursery. Now we've got plant inspectors that go around, and the nurserymen do a phenomenal job of keeping them clean. But we can be bringing them in when we set the plant out. If you've never had something before, we've brought them in. And this happens with insects as well as disease. Some diseases are soil borne Pathogens, and those are things that live in the soil on dead or decaying organic matter. And they primarily may attack through the root system. So why are they there? Well, they could have already been there. We run into that a lot with oak root rot or armillaria. We run into that a lot with peaches. And a farmer wouldn't want to plant a big peach orchard where there was oak trees growing because oaks carry that disease. So, we want to find a field that's been in a pasture for 100 years, if we can. And that's where we may want to plant a peach orchard so we cannot have that disease. The disease could have already been there before we even thought about planting a certain plant.

Shane Harris

The fungus among us, the fungi, are naturally there. They just occur. One person brought me a cedar apple rust leaf spot on an apple tree recently this spring. And that disease is transmitted from a cedar to an apple and back and forth to complete its life cycle. So, we joke with this title, the fungus among us. There's fungi everywhere. And naturally. A mushroom is a fungi. We see that. That's the fruiting body of the fungus in the lawn or in the natural area. We have lots and lots of fungi out there. We don't have enough time on this podcast to list every disease, every leaf spot, every fungi, every issue that's out there. Just know that they're there. And when the conditions are favorable, they tend to attack some of the ornamental plants and the fruit trees and the lawns that we do find important to us. Once we know a little bit about the conditions, we know what the recipe for a fungi or fungus to develop in the garden, in the lawn, in the flower bed, wherever it may be. Then we have to think about control methods.

Chip East

And I think about understanding the conditions is the take home point. If we could try to change some conditions so we wouldn't have the disease pressure. And you make a good point about the cedar apple rust. I used to live in a place that we had a cedar tree in the yard, and the nearest apple tree was a long way away, but I would see those spores in the tree. Teliospores, they're called, but I could see those in the tree. And it was a long way from an apple tree. And someone said, well, I'll just get rid of all my cedar trees, and I won't have this on my apples. Sure. But how in the world? There's just so many eastern red cedar trees around where we live, it is impossible. You can't get rid of all of them.

So, it's just a disease we know we're going to have. Just like when we plant many plants. I know this plant gets this disease, that plant gets that disease. And as I talk to new farmers and I'll say, this is what we got to be on the lookout for, I think I had one tell me, are you trying to talk me out of this? No! I want you to be successful, so I'm telling you what diseases to be looking out for because, I think we've said it, but the diseases are host specific. Usually there's not a disease that attacks every tree, every shrub, everything. It's this attacks that. This other disease attacks this other. This does this on pine trees. This does this on our tomatoes, and so forth. So, when something's attacking everything, it's probably not a disease. It's probably, we talked about them before in our other podcasts, but abiotic something. It's something other than a living organism, because they are host specific.

Shane Harris

Like I said, every tree, every maple, every oak is going to have probably some type of leaf spot. We find it on Magnolia. We find on red maple. We find on Japanese maple. At some point, you have to decide how serious it is. Now, we'll cover some major ones that can be very damaging to those plants, especially the lawn area or a vegetable crop. But most of them are very minor. And like the cedar apple rust, it can be very bad, at times, but it may just cause the defoliation. You can't treat everything, but you can treat the ones that are your prized plants.

Chip East

A lot of leaf spots may make the leaf fall off prematurely, but it wouldn't kill the tree. We lose leaves out of our pecan trees at different times during the year. Some people may lose their leaves if you had a lot of rain that

season, let's just say October. I've took pictures of our pecan trees in mid-November, and this tree will have a lot of its leaves still on it, while the others have very few leaves still on it. Well, one is more susceptible and the other may be more resistant to, like pecan scab or a fungal problem, than another.

Shane Harris

Let's just cover a few top fungal disease that we see based on our phone calls, of importance, that you may see this summer. And one of those is black spot on roses. Roses are a very, prized ornamental. And, it's going to have black spot, even though there may be some resistant varieties out there, most roses are going to get some form of black spot, and it can be very devastating. When you see black spot on a rose, it begins as the yellowing of the leaves, and then it begins to develop small black, circular spots, on those individual roses. You've got to treat that, and you got to prevent that from being a problem. It's what Chip said earlier, do your homework ahead of time. You know that these plants are going to have certain problems. You know roses are going to have black spot. They have powdery mildew. They have insect issues. Just like when we talked about tomatoes, we knew there's 30 things that tomatoes have. So do your homework and be ready and prepared to spray for black spot on roses.

Chip East

It's easy to say, well, go out there and pull the bad leaves off. But as we said before, the signs travel faster than the symptoms. So, the leaves that you don't pull off, they probably are already infected. And I do like the idea of using a preventative fungicide early in the spring once they start leafing out, we start spraying this as a preventative to protect that new leaf. I don't like pulling leaves off of a plant because if I pull leaves off, what's feeding the plant. We don't have the photosynthesis going on, and that's going to stress the plant by pulling leaves off. So, we don't want to do that. We want all the leaves on the plant to be healthy.

Shane Harris

And we've talked about fungicides in past podcasts. Fungicide is strictly a protectant. It's not going to kill the fungus. It's just going to control it, hold it back, maintain it. It's going to protect those future leaves from being affected by the spread of those spores and the development of that disease. So, spray early and often as a preventative so that we don't have the disease develop on those plants.

Chip East

That fungicide is washed off with rains, and sunlight can break it down. It's a preventative thing that stops that disease spore from developing. So, it's got to be there first before the spore.

Shane Harris

Chip, I mentioned powdery mildew. And I've personally experienced that on squash. I've seen it on crape myrtles. I've seen it on roses. We've seen it on other types of ornamental plants. Sometimes you see even on bedding plants, that it is a very big disease. It's very prominent. It's more than just a leaf spot. The whole leaf is coated in white in a lot of cases.

Chip East

There we go with our photosynthesis again, Shane. We don't have good sunlight hitting that leaf because of this powdery mildew disease. We get that on a plant called an euonymus a lot. And it's just very common where I live. If you've got an euonymus, you're going to have powdery mildew. It's extremely common on that plant.

Shane Harris

The conditions are favorable for it to develop as we talked about. So black spot, powdery mildew, we see rust a lot of times on our beans and our vegetable gardens. Having that fungicide program as part of your maintenance program for that vegetable garden is crucial to prevent it from being able to even develop. Again, the conditions are going to be there. At some point, it's going to develop and show up. So, take action before those conditions worsen.

Chip East

Absolutely. And again, go back. If these plants are susceptible, plant them in the sun. Plant them with more light. Plant them with better air circulation, you see. I'm not trying to talk people out of planting anything. I love all these plants. I mean, we're horticulture guys, so whatever plant you name, I'm probably going to like it. I'm not suggesting not to grow it. I'm suggesting what to do to grow these plants in spite of having issues.

Shane Harris

Another prized plant is hydrangeas. And I love hydrangeas' beautiful large leaves. Big leaf hydrangeas, beautiful plants, beautiful foliage, and then the foliage begins to get leaf spots. Not only does it cause cosmetic damage to the leaf, it can actually cause the leaf to turn brown and fall off. And again, going back to your photosynthesis, that's additional stress on there, as well as it's just ugly. The plant has gone from beautiful to not being very attractive in the garden. And we see that especially late in the season, as we get into further summer. Some of the plants start looking rough because the diseases have taken off.

Chip East

A lot of plants, Shane, may not have a bloom all summer long, but they should have leaves all summer long. So, it should be something. It's there to be pretty, if it's an ornamental plant. They can have other uses, but it's there to be pretty. The leaf spot takes away so much from that and we can do something about this.

Shane Harris

Chip and I have seen lots of diseases over the years entomosporium, cedar apple rust, brown rot, early blight. We've got lists and lists of fungal diseases that we've answered questions on for people. The last one we want to talk about is a big one in the lawn area. And that is large patch, previously known as brown patch. We've talked about a lot of leaf spots and leaf diseases on individual plants, but when you start getting to the lawn area, Chip, these fungal diseases can be very, very devastating because they take off. They spread and they can kill the grass.

Chip East

Definitely we need to manage the moisture. But two, we need to manage our nutrition. Let's just say this, ever what the soil test recommends, that's the way we need to do. We don't need excessive nitrogen. It depends on the plant. I'm thinking of Bermuda grass. It can take a lot of nitrogen, but we don't want to starve it for any kind of nutrition. And that is part of managing a lot of diseases as well. Again, there's a lot of fungicides we can do. I'll tell you, a lot of times we say the best thing in the garden or the lawn or wherever is your eyes scouting. And once you have major problems, a lot of times people call Shane and I and every other extension agent, and it's already too late. And whether it be a tree or something else, we might could've done something five years ago. But it's tough now. So start early in scouting, getting out there in the yard and looking. And you may be able to head these off early.

Shane Harris

The lawn, like I said, it can get out of hand pretty quick. We see a lot of fungal diseases in the spring and summer. Fall tends to be pretty bad. I've seen fungal diseases even around November, December recently. And talk about plants. When I think of centipede grass, I know it's a good chance it's going to get this large patch. But we've also seen it on zoysia grass the last few years. There's dollar spot. There's rust. There's other diseases that could also affect that lawn. And then there's take-all patch. Even in Saint Augustine grass. They can be very expensive because you have to go back and likely replace that grass. So, a fungicide program is much, much required knowing that you're going to probably have that problem if the conditions are favorable.

Chip East

It's expensive because if we give it time, they can regrow, and we can sprig, but the bigger the patches, and the more of them you have, you got time or money. You're either going to put time into it or money to make it look good again.

Shane Harris

That's much different than a leaf spot problem here and there. That can be a major, major ordeal. So, Chip, we've got a lot of fungus among us. Welcome to Alabama. Welcome to the South. We have these fungus among us here in our southern ground and in our southern air and just around us. Lots of diseases. Lots of issues. And I love what you just said earlier. You got to monitor it. If you have an insect disease, if you have an insect problem or disease problem, or if you just need a harvest, or you just want to look at the flowers, you need to scout, you need to be looking, to be watching those plants for any kind of potential problems that may develop, and take preventive action for it.

Chip East

To me, it's kind of like if you buy some piece of equipment that people around where you live don't work on it. I might not want to buy that, because how hard is it to fix it if something tears up? Well, when I think of a plant, what problems am I going to have with this plant? And I may want to choose a different plant that I might like equally well, that doesn't have these issues. So, I think that's the point of the lesson is getting out in there and watching. But thinking about it before we even develop the landscape and plant the first thing. What am I going to have problems out of and what's going to grow well and avoid the problems in the first place?

Shane Harris

Time, money and effort. So, it's up to you how you want to manage these problems. So, lots of diseases in Alabama. We have the fungus among us. And so go out there and scout your Plants. Be proactive. Know what you're seeing. If you have any issues, we have modern technology now that you can easily find that information on the internet. You can take pictures. You can send it to an agent. We can identify it. There's even apps out there to tell you what it is. Get it identified, find out what it is, and then take the next step, the next action, to treat it.

Chip East

And a lot of times you can send a picture to us, and we can ID it. But in Alabama we've got a couple of different labs, one in Birmingham and one at Auburn that you can actually send the sample to, and that is by far the best thing, but it's harder to send something through the mail than taking a picture. But that requires a little work on your part, but you can send a sample to these labs. They'll tell you what it is and how to manage it, and our pathologists do an outstanding job of this, and I'm glad we have that. It really helps because a lot of times we can't identify from a picture, but once we know what it is, then we can come up with a game plan on how to manage it.

Shane Harris

We send samples in all the time just from our ourselves. We don't know what it is, not sure what it is. We want to get a confirmation. We also learn from that process, especially when they get those fungal disease or in the roots or in the vascular system, or there are no exact signs or symptoms for us to really get a positive identification. So, use those services. We're here to help you in any way we can by contacting us. Contact any of your local county extension offices throughout the United States. All the land grant universities have an extension service. Here in Alabama, we're the Alabama Cooperative Extension System, and you can go to www.aces.edu to find out more information, or give us a call, and we'll be happy to help and answer those questions and identify the leaf spot or problem that you may have.

Chip East

All right, Shane. Well, we've covered a lot of ground today with the fungus among us, with a lot of diseases. So, it's important to get your eyes in the garden and in the landscape and see what's going on so nothing surprises you. We appreciate you all for listening in today. If you have any questions, just give us a call at your local extension office. Appreciate y'all listening.

Announcer

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