



Season 1 Episode 8 – Strawberry Diseases

October 17, 2022

Speaker 1:

Welcome to The Farming Basics podcast with Olivia Fuller. We'll have sustainable farming tips from growers across the state and extension specialists at Auburn University.

Olivia Fuller:

Welcome back. Today, we have Dr. Ed Sikora here from the Plant Pathology Department, and he's going to talk to us about strawberry diseases. I'm also here with my co-host Jacob Kelley.

Jacob Kelley:

Hey friends.

Olivia Fuller:

Today we have Ed Sikora, who is an Extension specialist professor and tell us a little bit about what you do.

Dr. Ed Sikora:

Olivia, nice to be here today. I'm Ed Sikora. I'm an Extension plant pathologist, professor in the Department of Entomology and Plant Pathology. Been here since 1992, last century for you kids out there.

Jacob Kelley:

Wow.

Dr. Ed Sikora:

I'm a plant pathologist. I work with plant diseases, fungi and bacteria, nematodes, and viruses. Today we're going to be talking about strawberry diseases because I work with small fruit and tree fruit like peaches and apples and blueberries and blackberries but I also work with row crops, mainly corn and soybeans, as well as tree fruit, citrus sometimes. Pecans, a few other different things. I work with hops and hemp. So you could ask me anything you want.

Olivia Fuller:

You do it all.

Dr. Ed Sikora:

Yeah.

Jacob Kelley:

Yeah.

Dr. Ed Sikora:

Not very well, but I do it all.

Olivia Fuller:

What were you doing research wise with strawberries this year?

Dr. Ed Sikora:

Something we've done, we started last year and both of you have helped me last year and also this year, but strawberries are a very intensive crop. A number of plant diseases, a lot of fungal problems, fungal diseases and growers are often spraying, commercial growers are spraying once a week with a fungicide or type of fungicide and we found out over the last few years in the Southeast that many of these pathogens are becoming resistant to some of our commonly used fungicides. So last year we surveyed around 28 operations around the state looking for populations of gray mold and-

Olivia Fuller:

And it was a good year for it, too.

Dr. Ed Sikora:

It was a good year for disease so it made it easy to find some of this stuff. Working with the University of Georgia, we're able to detect a number of resistant populations of both these diseases and we're doing it again this year. I was working with Jacob earlier this year, down in the Mobile, Fairhope area. He pointed out a few fields that we collected from.

Jacob Kelley:

They had plenty of disease for you to collect, I'm sure. Strawberry growing's only getting harder, it seems like, with the global economy and moving stuff around from all over the world, new diseases crop up, it seems like every year. I know it's seemed like that with citrus, especially with canker growing around and stuff like that.

Olivia Fuller:

Have there been new diseases this year? Is it different than last year, so far?

Dr. Ed Sikora:

Well, the one disease, Neopestalotiopsis, and I think I might have pronounced it incorrectly-

Olivia Fuller:

What he said.

Jacob Kelley:

What he said. Harry Potter spell.

Dr. Ed Sikora:

That's a disease that Jacob and Dr. Kassie Conner, our diagnostician, they found on a farm down in Brewton, Alabama earlier this year and it's a new disease picked up in Florida about three years ago. We've seen it in a few other states, but that was the first time we've seen it in Alabama, which is not a happy thing.

Olivia Fuller:

Is it going to be everywhere in Alabama? Should growers start looking out for it?

Dr. Ed Sikora:

Yes. So we put out some alerts for growers to be looking for it. I was down at the same farm. They saw it on the foliage and the leaves. I saw it on the actual fruit on this farm, and we had made the recommendation to the grower to just destroy those plants that had it because it spreads very easily within a planting with rain events and the cooler temperatures that we've been having.

Olivia Fuller:

So is that the protocol right now, destroy the crop?

Dr. Ed Sikora:

Yeah. Destroy the crop, or at least if you could... With that grower he had four varieties, but it was only out of one variety so recommendation was to destroy that variety but the grower decided to save a few plants to see what happens, which was very unfortunate, but it allowed me to come down a month later and see it developing on the fruit.

Olivia Fuller:

Right.

Dr. Ed Sikora:

So a little education for me and also an education for him because I said, "You might want to follow the recommendations of Jacob and Dr. Conner."

Olivia Fuller:

Did it end up spreading to those other varieties?

Dr. Ed Sikora:

It started spreading a little bit, but it was so dry that I think he got very, very ... I told him, I go, "You're very lucky," but by the time I left, he was going to dig those plants up and bury them. I said, "Burn them, bury them, throw them in your neighbor's yard, whatever, but get away from," but it's a disease that can destroy the whole crop and it can survive in the soil for the next year, so he came back with strawberries. He's going to be hammered again next year possible.

Jacob Kelley:

That's right. He got really lucky just the way his field lies. Those disease plants happen to be in the lower section of the field so when it does rain, all that water is not going to flow up the hill most likely. So I think that's also helping him out a little bit is the grade that he happened to plant on and stuff like that. So you're going around the state, you're collecting strawberries and plant samples and documenting what you find. Last year, it was crazy. We had what? 80 plus inches of rain last year which makes strawberry growing even harder. So is the disease pressure going to be different this year as far as what you're seeing already or you think we're on pace to have a copycat year from last year?

Dr. Ed Sikora:

It's been a strange disease because I know you were picking strawberries, a couple growers were picking in December, I think, or January when the normal season's late February or March. So the weather patterns have been odd. Growers are picking early. It was relatively dry in some of those areas and so they were getting a nice

early season picking, but now in the last few weeks we've seen more rain events, rainstorms. Right now I mean, I wore a jacket over here for this event, but it's cooler and I think you're going to start seeing more fruit rots like gray mold and anthracnose, fruit rot, as well as some of the faller diseases might start showing up. Most of these fungal and bacterial disease, they really like it cool to warm, but wet. A lot of rainfall just like last spring could really blow things up and things could change very quickly.

Olivia Fuller:

Are those the two to be on the lookout for right now, gray mold and anthracnose? Are those the two you're seeing most common?

Dr. Ed Sikora:

Yeah. That's right, Olivia. Yeah. I think gray mold is just a constant. You'll see it every year. Wetter years you'll see it more often, but you'll see that in backyard gardens, commercial fields, or even in the... Sometimes you'll see it in the grocery store.

Olivia Fuller:

I know, yeah. I bought some strawberries yesterday and I had to wash them really well, but is that what they should be spraying for? Should they just know that those two things are here in the Southeast and if they plan on planting strawberries, have something ready to go for those two?

Jacob Kelley:

Yeah, if you go out there and scout for these diseases and then say, "All right, I've got 100 plants that have Botrytis or gray mold, do I need to start spraying then? Or should I've already been spraying all year?"

Dr. Ed Sikora:

Probably should been spraying all year or at least as you start moving into the spring. So you want to go with something like a protecting fungicide like Captan, which is just gives you a cover, like a clotiapine effect on the plants. And then you could mix in, especially with commercial growers, mix in other products of different chemistries that are a little more effective versus say in Botrytis gray mold, I'm sorry, and anthracnose. So they should really be on a weekly schedule for a commercial grower. And especially this time of year you're in the middle of harvest. I mean, strawberries, as you said, is very intensive, but the season's also very short. So they have to pick now and they want their fruit to be healthy as possible.

Olivia Fuller:

What have been some fun things you've done with research this year?

Dr. Ed Sikora:

Well, the first one was just going to see Jacob's feel out there with this new disease, to see a new... As a plant pathologist of my tenure. Can I say that?

Jacob Kelley:

Yeah.

Dr. Ed Sikora:

Yeah. My tenure sounds good, to see a new disease or emerging disease was just phenomenal. I mean, I was out there for two and a half hours on my knees taking pictures, going, "Oh, look at this." The grower was looking at me going, "Stop doing that. Just get out of here. Let me dig my plants off." So that was very exciting. So you see some new problems. I have some work with Edgar Vincent, Dr. Vincent over in horticulture working with some new products, some organic products. I think one product's made from teeth.

Olivia Fuller:

Really?

Jacob Kelley:

Oh really?

Dr. Ed Sikora:

Yeah.

Olivia Fuller:

Because the few growers I have in West Central Alabama, they are organic and some of them use, which this is a fertilizer, but like fish emulsions and just all these weird organic alternatives, and I'm hearing some of them say it changes the taste of the fruit, but the organic people, they're struggling. They really are with some of the strawberry operations because it is, it's a hard... Fruit is hard to do organic.

Dr. Ed Sikora:

Well, I'm from Chicago originally. And my father had a big garden in the backyard and he grew strawberries. He grew well. He grew tomatoes. I think one year I was up there and I visited and I found one leaf spot on his tomato when I came to Alabama and people are saying their tomatoes are firing up and I'm going out there. And I'm seeing all these diseases and insect pressure in the Southeast is just incredible. So when someone says they're going to grow a large, say commercial, organic operation, it's difficult for them. They're taking on a challenge and I respect that. But say with strawberries, I was in organic farm last year under ideal conditions for gray mold and fruit anthracnose. And I'm sorry for laughing, but I mean, he must have lost 75% of his fruit crop due to these pathogens because he wasn't spraying at all and there was no protection and the fruit just never

had a chance under the conditions we had against the diseases that that person was dealing with. So organic production is cool, I think on a smaller scale, but it could be very-

Olivia Fuller:

Well, and bees absorb so much, I understand. The farmers aren't necessarily wanting to be organic, but I think they're getting a lot of pressure at certain markets in the state to be organic because of how much berries in particular absorb from their environment. I feel like a lot of them would not be organic if they didn't get asked a million questions at the farmer's market on what are you spraying these with?

Dr. Ed Sikora:

There's definitely a market for it. I mean, you in a grocery store, I mean I was buying organic zucchini the other day for, I don't know why, but it looked good. So for certain crops, I think it's a little bit easier if some of your winter crops, your cold crops, broccoli, there's less disease pressure that time of year. And I think you get away with it, but you start moving in into spring with strawberry, a high value crop too, or tomatoes and you try and go organic. Unless you can manage that field with a lot of help, it can be difficult.

Jacob Kelley:

What are some tips you could sling at our growers to help them manage disease in their field or prevent it from occurring. We know about rotating fungicides and using those effectively, but are there any other techniques that they should be aware of and be using out there?

Dr. Ed Sikora:

I think we have about eight to 10 different diseases that attack strawberries in Alabama at any given year. And I think all of them, maybe with the exception of one is most likely introduced into the field on transplants or cuttings. So they always need to buy their product, their transplants from a reputable dealer, ones that have had luck with the past or a friend has had luck with in the past or it's recommended by the regional extension agent. So that's the key. Two is those plants come in or remove that organic material around there because that gray mold and some of these other pathogens could live on that dead, organic matter. So clean them up before you put them in the ground. And then depending on what disease you've had in the past, you might, as you said, think about what fungicides you're going to spray for that season.

Work with us, this team that you two and myself and some of the other regional agents, we have to do a fungicide resistance profile. We've hit 28 fields in the state, but there's more growers out there. I know Olivia, we tried to get out a couple times last year, but for various reasons couldn't do it, but we'll do a fungicide profile to see what fungicides don't work because we had growers spraying very costly fungicides and it had no effect on anything. It was just throwing like dollar bills into the field, trying not to overhead irrigate, which most commercial growers don't but home gardeners do because that favors a lot of these problems. And just scouting. I told a grower last week that if you do have disease like gray mold or anthracnose, try to, if you have the help, remove those diseased fruit from the field. And he goes, "Ed, I don't have enough help to do that." So

they're taking the fruit and throwing you in the middle of the row, which of course, is still a source of inoculum for the fruit. But I go, "Just pick them up."

Olivia Fuller:

I keep seeing that so much.

Dr. Ed Sikora:

I was so sad.

Jacob Kelley:

Get it out the field, for sure.

Olivia Fuller:

Do you still eat strawberries after all of this?

Dr. Ed Sikora:

Yeah. I had a nice protein shake this morning with strawberries and blackberries. And when I see, was it? We had some blackberries in our fridge that we forgot about. It was covered up with the... There's a post harvest [inaudible 00:13:52] called rhizopus and it's grayish white and everyone's had it if you live them on your counter. I call them old man's or old man's gray beard more or less. And I see that. I just get all excited. I'm taking pictures and getting on Twitter and stuff and say, "Look at that. Isn't that cool?" People look at me like I'm not right.

Olivia Fuller:

Yeah. Shout out to your Twitter account. I follow you on there. It's the one page I do follow.

Dr. Ed Sikora:

It's the best one in the world.

Olivia Fuller:

It's really good. Yeah, tell everybody what it is.

Dr. Ed Sikora:

At Alabama lowercase Ed, ed. So Alabamaed.

Olivia Fuller:

And you post daily, I think, right?

Dr. Ed Sikora:

Oh, I got butterflies from this weekend. I got azaleas, but we have a lot of strawberry diseases throughout the season. And then I try and I use that platform that educate growers or what disease it is, what it looks like and what you could do about it in 72 characters. But I think it can be useful to growers, home gardeners and usually I try and make it fun too.

Olivia Fuller:

So do you have a particular farmer that you like to buy your strawberries from because of their management style? When you're being a picky consumer, does it-

Dr. Ed Sikora:

I am not a picky person, Olivia.

Olivia Fuller:

Okay.

Dr. Ed Sikora:

I just go to a person, people at farms that you've had luck with the past. Down in the Southeast, I've gone to Aplin farms. Good fellow, good practices in Jacob's areas. I was down at Burris' talking to Mr. Burris. I've been with him for like 100 years.

Olivia Fuller:

Yeah, he's amazing. Can you give some insight on what he's doing to keep his strawberries so perfect?

Dr. Ed Sikora:

He just manages them well. He cleans them up, sanitation. He knows his source. He's on a tight spray program that he follows religiously. He knows his resistance profile. He rotates fungicides. He just does a nice job. He's had 30 years of experience. Now there's another farmer down there that in fact, the two I met the same day with Burris and they're first year farmers and they were having some problems and they didn't have enough help. So they had the fruit in the field. And Jacob and I were trying to help them just get through the season. And one word of warning is if you are going into strawberries or you want to go in a U-pick strawberry operation, it can be lucrative. It can be challenging, but start off small. Go over a half acre, an acre, and just see if you can make it through that first year and get the bugs out of your system.

And if you do well, the second year, don't do 30 acres. Think about expanding, but think what you could manage. We had a guy named, I won't say his name, but it was down in South Alabama year I went to visit him. He had 30 acres of strawberries and they were just covered up with disease. And I said, "What'd you grow last

year?" He goes, "Oh, we had two acres and we made so much money. We just made 30 acres. We'll make a lot more money." And he was out of business the following year because there was like a disease.

Olivia Fuller:

Yeah, I think we just opened up a gossip column for our podcast.

Dr. Ed Sikora:

It was a heaven for disease basically. Yeah. For a pathologist, it was my best day ever.

Jacob Kelley:

Do you recommend, so if I'm a new strawberry grower and if somebody calls me and they want to grow strawberries, I've got a list of transplants suppliers and say, "Here's this list. These are the ones that I'm familiar with. These others, I'm not familiar with," whatever. They're buying for the first time. Should they dip those transplants in a fungicide before they put them in the field? Does that have any efficacy?

Dr. Ed Sikora:

Good question. The fruit anthracnose was a problem two years ago and working with Edgar Vincent and Kassie Connor, Dr. Connor, we put together... You could do, let me step back. There are dips you could use for transplants. So that's a good point. Products like Switch is a fungicide plus a couple others where the transplants come in, and you just dip the transplant in a solution of this material for about two minutes, take it out, put it in the ground. And that's a coating that gives those plants a head start against any pathogens that might come in on those plants. And we started talking about it that two years ago after it was a bad year for fruit anthracnose. So that's definitely a very good option. I'm glad you brought that up. Who made you so smart man?

Jacob Kelley:

Reading. Once a year, I'll pick up a book.

Dr. Ed Sikora:

Once a year.

Jacob Kelley:

Yeah, try something new. They say reading's good for you. Pick it up. This year it was strawberries.

Dr. Ed Sikora:

All right.

Jacob Kelley:

They caught me early. What about management of row covers? Some people will leave them on for long extended periods of time. Like it's going to be cold in December and January, do I want to leave my row cover on for 30 days or every time it's not freezing should I just remove that row cover? Takes a lot of labor, but-

Dr. Ed Sikora:

I don't know that much about row covers. We've used it as a cultural practice to prevent insect transmitted viruses to pumpkins and watermelons and tomatoes for that matter. I know the strawberry growers using it down in South Alabama for frost protection use it. But one grower I talked to this year said he might have left it on too long, which increased a relative humidity and the moisture inside that canopy. And he thought that led to some of his disease problems. So it's a great practice if used properly. So before you buy it and before you do it, you better read that book you were reading [inaudible 00:19:28] and figure out how to use it correctly.

Jacob Kelley:

Yeah, you don't want to leave them on there too long, especially when the temperature gets high, because it's just a breeding ground for all kinds of insects and all these diseases.

Dr. Ed Sikora:

Yap.

Olivia Fuller:

And even the black plastic. I've seen a lot of growers have that down and their leaves are just crispy and their strawberries, they just fried because it gets so hot even though it's still kind of cool outside.

Dr. Ed Sikora:

Yeah, a good point.

Jacob Kelley:

Yeah. I mean, down in my area, we're wearing shorts on Christmas day a lot of times. So it'll get up to 80 degrees and if you got a row cover on there, it's going to be warmer under that row cover. And so I imagine that it does all kinds of bad things. Plus you're starting your spring out with plants that already have disease and insect problems. And so you're being reactive at this point instead of proactively-

Dr. Ed Sikora:

Getting behind the wagon in a way. Once you're trying to catch-up, it's-

Jacob Kelley:

Playing catch-up's no fun.

Dr. Ed Sikora:

... no fun.

Jacob Kelley:

I like to be in the lead.

Dr. Ed Sikora:

Yeah. Being proactive, using a good source of plants, good source of transplants, dipping them if you had fungal problems in the past, using these cultural practices like plastic mulches and row covers properly, know your fungicide program ahead of time and get ahead of the game before these diseases show up. And if you know you're going into a situation where you have a week of wet weather and overcast skies, think about spraying beforehand, because you might not be able to get in the field the following week. And then by the time you get in there, it's lights out. Might as well just go back to the house.

Jacob Kelley:

That's right.

Olivia Fuller:

Or follow you on Twitter. Do you give weather updates and reports on, go out and cover your strawberries?

Dr. Ed Sikora:

If you would follow me, Olivia, I would do that.

Olivia Fuller:

I do. I made a Twitter just for you. I really did. Go look at your followers. There's a-

Dr. Ed Sikora:

My heart-

Olivia Fuller:

There's a person without a profile picture and without any post that's watching your every move out there.

Dr. Ed Sikora:

People have asked me to take my profile picture down.

Jacob Kelley:

It's that good, huh?

Dr. Ed Sikora:

No, it's really sad. I'm not a good looking man. I'm much better at the podcast and radio than I am in person.

Olivia Fuller:

Got that radio face.

Dr. Ed Sikora:

I got face made for radio.

Jacob Kelley:

Yeah, that's right.

Olivia Fuller:

Well, I think we covered a lot of the things about strawberries, unless there's something else you want to throw our growers.

Jacob Kelley:

Yeah. I feel like I know more already. I'm ready to grow strawberries.

Olivia Fuller:

I'm not.

Dr. Ed Sikora:

Grow them organically.

Jacob Kelley:

Yeah.

Dr. Ed Sikora:

No, I think we covered everything. You guys brought up a couple good topics there in organics and the dip and so forth and the roll covers. So I appreciate the time and effort you guys do to do the show. You do a great job and thanks for having me. I love to talk to people. What a great [inaudible 00:22:14].

Olivia Fuller:

Especially when they can't talk back.

Dr. Ed Sikora:

That's right. This is nice, Olivia, thank you.

Olivia Fuller:

Thank you. Thanks for joining us today.

Speaker 1:

This has been a production of Alabama Extension at Auburn University.