



Season 1 Episode 12—Ugly Tomatoes: Nonliving Causes

June 5, 2026

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 another *Southern Ground* podcast. I'm Shane Harris with the Alabama Cooperative Extension System and joining me with this podcast again is partner and longtime friend, Dr. Chip East.

Chip East

Morning, Shane. Good to see you today.

Shane Harris

Great to be back with you, Chip. We've got a fantastic topic. When we started doing this podcast, I wrote this down early for our summer topic. And today we're going to talk about having ugly tomatoes.

Chip East

Well, we can have those, but I'd rather do a little something different. Shane, we have a lot of calls every year about tomatoes, and if somebody don't grow anything in the garden they make, if they grow one crop, they might just grow a tomato.

Shane Harris

As we've done workshops in the past, we've identified about 30 different problems or issues that tomatoes can have in a vegetable garden as well as a farm. And so, we're going to talk about those and get in deep. But it's very disheartening is the number one crop, the number one vegetable that people like to grow is tomatoes. And it's very disappointing by the time they're ready to be harvest they're just flat out ugly.

Chip East

That's right. And there's a lot can be done to get rid of some of these problems that we may have. And I say get rid of may not be the way but manage the problems. Shane, we were doing a tomato meeting one year, I remember, and we've done a lot of meetings over the years, Shane and I, tomato meetings and we were doing a meeting one time, and this lady came in. She said, well, I started not to come today. She said, because tomatoes only get three things. And I said, you better get a chair. You better stay a while because no, ma'am, they get a lot of different...they have a lot of issues.

Shane Harris

And those issues are abiotic disorders and problems that are caused by the environment, heat, too much moisture, growth defects. We're going to talk about insect pests and we're also going to get deep into plant diseases. And so this is actually going to be a three-part podcast here on *Southern Ground*. Tomatoes is such a huge topic, such an important crop that people like to grow, that we've got to break this discussion up and get deep as we get into these various issues of ugly tomatoes.

Chip East

Yeah. And we separate that out into biotic and abiotic problems. And biotic problem would be a living organism. And let's just say a disease, an insect, a weed, abiotic is something other than a living organism. And that's what Shane and I'll talk about today.

Shane Harris

These abiotic problems are basically cosmetic flaws. And so that's what the visible thing the tomatoes done well, you've got through these all these issues. You may not have a lot of insect disease, but at the time of harvest when they begin to ripen and they're supposed to be pretty, they're disfigured, they're rotting, they're just not growing properly. Not only do you not want them to look like that, you can't sell them and a lot of times they may be rotting or have problems you can't even eat them.

Chip East

I mean, sometimes I don't worry so much about what they look like. Although if you're trying to sell them, that is a big deal. But I worry about the whole point is to have something that tastes good. And yes, it can affect what you eat.

Shane Harris

So, our specialists tell us that these cosmetic issues or abiotic disorders are primarily changes in the temperature, moisture levels during flowering as well as during fruit development. You don't notice a lot of these issues with temperature or lack of pollination. You don't see that up front, but you do see it when the plant begins to mature and the fruit develops as it reaches maturity.

Chip East

A lot of people in we're looking at it when they're pollinated, as they're a small tomato growing, but a lot of people just go out there when something gets red and it's time to eat and oh, we got a problem, we really have to go back and it really starts before planting for some of these disorders to be. And I'm not saying we're going to fix all the problems, but we're certainly looking at the problem long before we plant the plant.

Shane Harris

Unfortunately, a lot of these you cannot control. You can't control the weather, you can't somewhat control the moisture, you can't control it, you can't control the heat. And you may not can control the flower development and pollination. So those are the things that we're going to get a little further in. And we're going to talk about some of those common abiotic disorders that tomatoes have that make them so ugly.

Chip East

One of the main disorders Shane, that I see very common is blossom end rot and blossom end rot is a calcium deficiency in the plant. We could always say a calcium deficiency in the soil, but you may have it in the soil and it's just not making its way into the plant for whatever reason. And it shows up in the plant as the bottom end, don't have to be on the bottom end. But on the bottom end, we always say the blossom end, this black sunken spot that looks terrible, blossom end rot.

Shane Harris

Chip, this seem to be in a more of an early problem. So, we have the green tomatoes a lot of times will turn ugly with that rotting on the bottom in addition to the ripened tomatoes. So, this is one of those early problems that we see. And that's something that we definitely need to control.

Chip East

Again, it can be it's a lack of calcium in that plant. Well, we can have calcium in the soil and where the pH is not right. Water, I think about this is dry is the plant's not taking it up into the plant. It can be in the soil and not be in the plant blossom end rot major, major problem. Other plants get it. It can be in cucumber. It can be in watermelon. And again, it doesn't have to be in the blossom end of some of these crops. But that's where we

see it on the tomato. Thousands of dollars lost because of this well disorder. And I've seen bucket full at farms to be thrown away because the calcium is not right.

Chip East

The make calcium sprays you can spray on a plant. I don't like that. The plant does an excellent job is taking in from the roots. That's where I'd put it. You can buy calcium nitrate. That's something I could add. Usually, it's the first cluster or two of tomatoes that get that. A lot of times as the plant gets bigger, the roots are further out. They can take in calcium. But do check mulching can help put your irrigation when needed. But obviously we got to do the soil test and have calcium in the soil to begin with. But all that, being there, I would water right and I would add the calcium nitrate if needed. I wouldn't do the spraying on the leaves.

Chip East

Shane. Another disorder we often see in the spring is the leaves of the tomato rolling up from the sides.

Shane Harris

And that's a hard one to diagnose because, like, why is that plant doing that? We sometimes see certain varieties or cultivars of tomatoes do that while the others don't. This tends to be more of a physiological disorder, and it seems to happen more early in the season. High temperatures, prolonged periods of wet soil conditions, even drought conditions, may promote this. The development of leaf roll, most commonly when these plants are trying to set fruit. So, it is one of those early season problems. A lot of them will just outgrow it. A lot of them will may just continue to do it. But it's not a big, big deal. That's why we probably need to share with homeowners and farmers. It's not likely this is going to make be detrimental in the plant, it just sort of looks bad when it does that.

Chip East

People are asked, they get confused with lack of herbicide injury. And I said, that rolls up from the sides oftentimes when the end starts rolling and or at least the first thing to roll, I think a 2,4-D damage. And we may not be spraying our garden with 2,4-D, but we may be spraying another area in the lawn and it drift over. And that's how it gets in the garden. Or I've got a sprayer that I it was I'd really rather have more than one sprayer, but it maybe didn't get cleaned out. But if I'm spraying in my vegetable garden, I don't want to be using a sprayer that had 2,4-D in it that I had been using on my lawn. And also, there's certain herbicides, it's not just 2,4-D, there's other herbicides that we can put in a pasture and it's good for the grass it kills the weeds in the pasture. But when we save that hay or that manure and then we put that in the vegetable garden, that herbicide danger can show up as leaves curling up as well. So, it kind of depends, the leaf roll and then a curl like the herbicide. There's two different things. One is a major problem. The other is not a big deal.

Shane Harris

Chip. Another question we get sometimes is my tomatoes don't have any tomatoes at all. The plant's looking good it's doing well, it may be an early season situation, it could be a mid-season situation, but there's just no tomatoes. The plant looks great in this case, but they're just no tomatoes develop. This is an environmental

disorder. And it could be lack of pollination. It could be weather related. Sometimes the plant just drops tomatoes, aborts the fruit. Fruits not set it. Tell us a little bit about this problem with tomatoes.

Chip East

I think about when we have high nighttime temperatures or high daytime temperatures. The fruit may not set. And they can have, like you say, abort the fruit. Well, there's nothing we can do about the temperature, but there are some heat set tomatoes. So, if we're having the high, nighttime temperatures will always have the high, daytime too. But if we're having that, we may not do anything that year, but at least the following year buy a heat set tomato. And there are several that's listed. Sometimes it's in the name. You can tell Sun Leaper, Solar Fire or Sun Chaser. There's some names like that but then Bella Rosa is one that is a heat set tomato. So, you just got to read the little tag that comes with them. Or, when you're looking at them in the catalog, it'll tell you this one is a heat set tomato. Now, when it's 100 degrees, none of them like that. But we're better. And I'll mention one more thing, Shane, about there not setting fruit. What if we're over fertilizing one? And if the leaves look good? It is. A green plant is growing, but no fruit.

Shane Harris

Yeah, in this case, it's not ugly tomatoes. We got a pretty plant, but there's just not any tomatoes. Being set, we've had calls where the plants may be six feet eight feet tall and grow, grow, grow. But like you said, that's typically due to too much nitrogen, too much of a good thing.

Chip East

It's just too much vegetative growth. And they're not setting fruit. That's correct. So, slack off on the fertilizer. It's a little too late once that happens. But if you've had that happen before, you'll know to slow down on the fertilizer, and it'll start sitting fruit again. And oftentimes when the middle of the summer, you may not be sitting fruit because of the heat going back to that. But later on in the year, it'll that same plant can start sitting fruit again. So just be patient.

Shane Harris

Speaking of ugly tomatoes, this physiological disorder definitely is top of the list. That's cat facing. Cat facing, what do you mean by that? Well, if you've ever seen tomatoes as they're green, even when they begin to ripen, they're misshapen. They're irregular shape. This is due to cold weather at the time of blossom set. So, this disorder doesn't show up too late in the season or as the fruit develops. But is the result from cool weather during the early spring? This is mostly observed after the first set of fruit is actually develop and you see this a lot for the big tomatoes. You know those big tomatoes, those beefsteak tomatoes that we like, the ones that we like for a sandwich, for a BLT, they'll fill up the entire piece of bread. These are the ones that are very prone to this disfiguring, misshapen fruit.

Chip East

I don't even know how to describe it, Shane, other than just saying it, it looks like somebody cut 2 or 3 tomatoes and attached them together. And yeah.

Shane Harris

It's the title of this episode. They're ugly.

Chip East

You can eat them. They just don't look good.

Shane Harris

Can't sell them.

Chip East

They don't sell.

Shane Harris

But really, nothing wrong with them. And they're just misshapen as we described. But that's more of an environmental physiological disorder. There's really nothing you can do about that. Just, just knowing that that's the cause. A lot of people may think it's some type of disease or insect problem. No, it's more concerned with environmental issues. In this case, it occurred early in the season, but you don't see it miss shape until later on near a harvest.

Chip East

Shane, let's talk about one more another disorder fruit cracking or splitting. We can see these concentric rings on the top on the stem end, just around that stem a ring, a ring, a ring that's cracked or we'll see it down the side of the tomato. Sometimes a little crack, sometimes there can I say it's busted open and boy the fruit quality suffers when that happens a little crack we can get by with. But when it burst open, it's terrible. So, in it's the skin of the tomato it may not grow as rapidly as the inside when we have a lot of. I'll just say, big rainfall. I guess we could do it with over irrigating. But I think a big rainfalls that happening and it cracks that fruit. Well, this happens with blueberries. It happens with other crops. Well, we can eat it. The shelf life of that tomato has went way down. So, how do we prevent the cracking? Well, we can't stop the rainstorm that came through. But what we can do is better drainage. We can add organic matter. We can grow cover crops. Now, this takes time. We can put in raised beds. But you should have less cracking if we have consistent moisture and not let it be dry and then get it real wet and let it be dry and get it real wet. So consistent moisture the best we can. And that's sometimes not an easy thing to do but adding organic matter and building the raised beds and managing your irrigation. We can't do anything about a heavy rainfall, but these are the things we could manage.

Shane Harris

Another one Chip that we see late in the season, and this also goes along with some of the disease issues where you start losing foliage, that's sun scald. This is where the settling the fruit that's beginning to ripen, it could be green, it could be beginning to turn red to orange, is actually burned by the sun. The initial symptom is more of a whiteish shiny area that looks blistered? It looks like a sunburn that you have on our skin.

Chip East

I would love to have the plant. Obviously, we're planting in the full sun. That's a recommendation. So, the leaves need to be in the sun, that fruit I wish it was in this shade sometimes because that sun can hurt it. And again, when we lose our leaves because of disease, we're going to that sun scald is a definite possibility and that certainly happens a lot.

Shane Harris

This mostly occurs on the green tomatoes as they're developed. You don't necessarily see this as you begin to harvest the tomato. But a lot of these issues that we bring up, if it's disease or insects or other disorders, a lot of them that lead to rot and that disfiguration, and then you can't use them, they're not marketable, you can't sell them. In this case, we've got another ugly tomato on a vine.

Chip East

I'll add one more thing that goes into to sun scald. And it's something that it was really hard to see, but I was at a farm a few years ago and there are certain tomatoes we recommend for the commercial grower, but the homeowner can buy the same seeds. It's not a anything that's private that only one group gets, and the other group doesn't, but the homeowner tomatoes are easily found. Well, this particular farm he planted some. I won't name the variety, but a popular homeowner variety. And he called me and said, what's wrong with my tomatoes? It was just so hot. The commercial varieties he planted over here were fine, but it was one of those hundred degree weeks that we had and the tomatoes were, the quality was terrible. It wasn't sun scalded. It was even hot inside the tomato. And just the qualities gone has nothing to do with the looks. They looked good, but it was not a good tomato. And it goes to the heat.

Shane Harris

Something relate to heat another disorder? Again, tomatoes have lots of problems. If we started counting all these, we're talking about 30 different things that we have a list that we're going over with you. This one is described as yellow shoulders. And Dani Carroll was one that brought this to my attention years ago. Because again, I experienced this, what's going on with this tomato? It is basically the top of the fruit when they begin to, to ripen, they look burned and rotting and disfigured and all that. You've got this yellow or white area on top of the fruit. This is due to lack of chlorophyll in that area. It's associated with high temperatures, direct sunlight, heat damages the top of that tomato that leads to rot and mushiness again, we've got an ugly tomato that you can't really do much with except toss it in the woods and get rid of it. You can't sell it; you probably don't want to eat it.

Chip East

You don't want to eat it. And that's the terrible thing. We can eat an ugly tomato, but you don't, you're not going to eat one that doesn't taste good. Shane, the last disorder we want to talk about is when you slice that tomato open and you see this hard core in the center, talk about that.

Shane Harris

This is a surprise because the tomato is actually perfect. It's pretty. It was pretty on the vine. It was pretty when you bought it from the farmer or the local supermarket. You take it home, you slice that tomato up maybe for that BLT sandwich, the tomato has a hard central core. We think this is due to stressful conditions while the tomato was actually growing, many older varieties had this problem, especially large ones. This is an internal disorder, a problem. A physiological disorder could be a genetic disorder as well. But there's actually nothing wrong with these tomatoes you can eat these. So, if you do slice that tomato up and you're going to use it, if you're going to can it, you're going to eat it. Whatever are you going to make out of it just cut around it and you can eat the rest of that fruit.

Chip East

That central core can be caused possibly from extreme heat, it can be caused from a nutrient imbalance and some cultivar, some varieties, tomatoes get it worse than others. So, if you're consistently having that problem in your tomatoes, you're growing. You might want to try a different variety.

Shane Harris

Chip, for this episode of ugly tomatoes, we've covered a lot of the abiotic disorders and problems that tomatoes get. We're going to continue this conversation with a couple upcoming guests.

Chip East

We're going to talk to Dr. Paulo Cremonez, and we're going to talk to Dr. Ed Sikora. Ed Sikora and Paulo Cremonez have been helping us diagnose these tomato problems and they do a great job and we're glad to have them here in Alabama working with us. They teach us a lot, Shane.

Shane Harris

They do. We've learned a lot over the years for this, and that's the reason we're able to do this podcast and share this information to you today. So, stay tuned as we get this will be a, three-part episode that will continue talking about your ugly tomatoes and how you possibly can prevent having those ugly tomatoes this year in your garden or at your farm.

Shane Harris

Chip, another great podcast and looking forward to having our guests on future topics and digging deeper on this particular topic as we talk about the ugly tomatoes.

Chip East

Hey, thanks for joining us and as always, if you have any questions, just give us a call at your local Extension office, we can be found online at www.aces.edu that just stands for Alabama Cooperative Extension System.

Shane Harris

Thanks for listening for *Southern Ground* and we'll talk to you soon.

Announcer

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