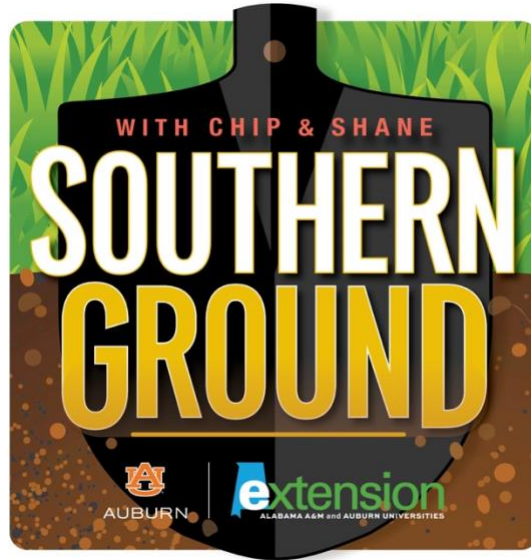




Season 1 Episode 20—Yellow Jackets & Hornets: Part 1

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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 another episode of *Southern Ground*. We're back. I'm Shane Harris, with the Alabama Cooperative Extension System and sitting across from me again is Dr. Chip East, also a horticulturist with the Alabama Extension System here at Auburn University.

Chip East

Hey, Shane. Good to see you today.

Shane Harris

We're ready to go again.

Chip East

Oh, we got a good podcast lined up for today.

Shane Harris

We've got a fantastic topic, a lot of you have issues with wasp and hornets, specifically yellow jackets, those mean ole devils in the fall. So, we're going to talk about that and we have Dr. Meredith Shrader today as our guest.

Chip East

Yes. Dr. Shrader is an insect diagnostician with Auburn University and with the Alabama Cooperative Extension System. When there's insects, people send us pictures or insects come into our office. If I don't know what it is, Dr. Shrader's the person that gets an email from me. Please help. What is this? And she's always good. Thank you so much for joining us today.

Meredith Shrader

You're welcome. I'm happy to be here.

Shane Harris

So, let's talk about first those yellow jackets. We've all had personal experiences with yellow jackets. Dr. Shrader, if you'll tell us a little bit about some of the common wasp, and then we'll get more details about the specifically about the yellow jackets.

Meredith Shrader

Yes. Well, 90% of the stings that occur every fall are from yellow jackets. Not necessarily paper wasps or hornets or honeybees. It's the evil yellow jackets that bubble up from the ground and like to mob you as you're walking by or weed whacking or on that lovely riding, zero turn lawnmower.

Shane Harris

Yeah, we've all got experience with that Chip. I've had them come out of the ground, out in the lawn, cutting grass, and then you make a circle. And they didn't get you the first time. But when you come back that second round on the lawnmower, they're waiting on you. They don't like weed eaters. They don't like lawnmowers. They don't like any kind of vibration. But the summer, late summer, fall tends to be the worst time for yellow jacket.

Chip East

And we think about them being very aggressive, but we're disturbing their environment and we would get excited, too, if somebody went to shaking our house.

Shane Harris

Be like an earthquake coming. Who's knocking on my door?

Chip East

You might surprise them early, but when you make that second round on that lawnmower, they're ready for you then aren't they Meredith.

Meredith Shrader

That's right. You woke them up and they're coming at you. And I think it it's important to discuss why. Maybe you've driven by there a couple times the summer and they didn't come out at you. But now the fall setting in, you know, the weather's changing. Reproductively, that's when the yellow jackets start producing the boys and girls for next year. They're putting a lot of resources into rearing those reproductive individuals, and they've had all summer to make workers. And so, you're dealing with tens of thousands of yellow jackets in some of these larger nests, up from just a couple hundred from the spring and summer and every nest starts with one queen. So that one queen has now had all summer to make the next year's brood that they're going to defend because they've spent a lot of time and energy. So that's why they're particularly defensive this time of year.

Chip East

How many years would one queen live?

Meredith Shrader

Generally, one queen lives one year. She'll come out in the fall, mate, and then overwinter in the ground as a single individual. Here in the South, sometimes we do occasionally run into super nests, but that's a very rare occurrence, and usually it's highly dependent on weather. So, a mild, mild winter with very little freeze, might create the opportunity to have a queen that doesn't die in the winter. But typically it's, they pop out, mate, go to ground, pop out in the spring, have their one year and then die, which I'm thankful for.

Chip East

So that nest that's in the ground right now, they'll produce how many potential queens that will come out and bury in the ground before, I assume before the cold weather, I guess they'll have a few nights of cool weather, and they're thinking, well, we need to go somewhere we can't stay here. So they'll bury in the ground.

Meredith Shrader

Yep. They they'll go in, you know, do their little mating run and go on dates, and then they hunker down. And typically you can have an average nest will produce several hundred to 1000 reproductives. It's really dependent on how successful that colony was at gathering resources and allocating that to the young. A small colony doesn't have the potential to create thousands of new individuals. But, one that's next, to your local park where there's lots of things to munch on in the trash cans or right next to, someplace where there's going to be a lot of carrion next to a highway where there's a lot of roadkill because that's what they eat. They feed on carrion and trash cans provide a really good place for to find those leftover chicken wings and soda pop that they need. So they get the protein and the sugar to keep that colony going.

Chip East

Around those ball fields. We see them a lot, Shane.

Shane Harris

We do in the fall. So technically the wasp and hornets are beneficial insects. So, if you will talk a little bit about that because you mentioned them being scavengers, helping cleaning up these areas. So technically these paper wasp, the yellow jackets, the European hornets, all those stinging insects that bring us attention when they attack us, they're technically good insects.

Meredith Shrader

They are, I do like it when they disappear in the wintertime, though. But the yellow jackets are carrion feeders. So they do a service by helping the flies, the vultures,

and things get rid of carcasses, so that it's going back into the environment. I prefer to have hornets and paper wasp, though, if I had to pick one, because those are predatory. They're going to go out into your garden, your orchards, your tomatoes, and they're going to be actively hunting for caterpillars or other, insects that might be feeding on the plants, like stinkbugs and, and things that are going to be, you know, decreasing the quality of, the food we're eating. So I really encourage people to leave the hornets alone. And the paper wasps, especially if their nests are high up under the eaves of your house or in areas where you're not going to be frequenting. So that's one way that they do help out.

Shane Harris

They just get a bad rap. Chip is when you disturb that nest. We've all seen paper wasp around the porches in the barns. And we come in contact with them indirectly. But they're not as aggressive as the yellow jackets. They're just defending their nest.

Meredith Shrader

Correct? Yes. And typically they are in more out of reach places versus a yellow jacket in the ground is going to, you're going to have a higher chance to encounter them versus being on a ladder emptying out, the gutters. But yes.

Chip East

I've got a question about in the ground. So they can be potential, one nest can produce several potential queens, whether they make it through the winter or not I don't know, but they could. I've been to places where I'll find a nest in a yard, but I don't see any others. Now they may be others there, but I just don't see them. Other times or another year. I've got a friend who's a landscaper, and this was several years ago. He said he treated like 5 or 6 nests in one yard. And I assume all those came from that same colony, and they didn't fly too far before they mated and overwintered in the ground. And where they overwintered, did that become their colony or did they move and did they come in from other locations?

Meredith Shrader

That's a good question. And I think that the dispersal of the colony is kind of random. There might have been a neighboring colony that just had a whole lot of individuals and then moved into that area where there might not

have been as much pressure. So, a lower population of yellow jackets, but it's important that people know that they don't reuse the nests unless it's like one of these rare, rare super nests from a really mild, mild winter.

If you have ten in your yard one year, that doesn't necessarily mean that next year you're going to have any. So, they don't reuse the nest. The presence of them in your yard this year doesn't mean that you're going to have them next year. It's kind of really random. And again, it's based on the size of whatever nest is in the area.

So, there might be a nest that did really well and had really good foragers and produced a lot of offspring and then they just kind of expanded into a given area for some reason. Maybe they were attracted to a certain color or certain environment. They do need water. So it might be, a concern about having available water in an area versus staying in an area that is more drought ridden. Because they do need to go into the ground and so there's some soil types that they are more easily used by these individuals also.

Chip East

Is there a way to predict, is it going to be a heavy infestation of yellow jackets in 2027 or not?

Meredith Shrader

A lot of it depends on the weather. So, if we get one of these really hard winters where we have the polar vortex dipping down and the ground really does a hard freeze. That typically will wipe out a large amount of these individuals. And that's what I always hope for, I like to kill them all, you know, carrion feeders and cleaning up the area.

But they have such a bad rap and I've been stung by them so many times. I'm just like, I just want them all to go away. But there's kind of some things that you can do to, to help eliminate them from an area. If you're really concerned about it, or you've had bad experiences, you can put up yellow jacket traps in the spring. The timing of it has to be implemented correctly because, again, one giant colony comes from one queen. And so, you can go and put up a yellow jacket specific attractant trap. The queens will go in and then in a given area, you won't have any yellow jackets because you've eliminated the Queen's early spring from even starting. So that's one good thing about the traps in the spring is eliminating them before they even start.

Chip East

I like that that's good advice.

Shane Harris

Is no different than we talked about managing the ants. You control the queen, you control the population boom and eliminate most of the workers. Dr. Shrader, we want to ask you this question, and we talked a little bit about this off the air prior to this, and that's the point of the emphasis is always the sting. The yellow jackets are aggressive, they attack, they sting, and they tend to repeat the sting. So, talk about from the physiological standpoint, what makes a yellow jacket different from, say, the honeybee?

Meredith Shrader

Yes. I feel like we get a little tit for tat when we get the honeybee, because when they sting us, they die. Because their biology and morphology is such that when a honeybee stings you, it has a barb on the stinger. And so, when they sting you that barb gets caught in your skin, the venom gland comes out, and it stays with you. And the honeybee has enough time to get back to the hive, deposit the honey and pollen that it has, but it will die within a day. With the yellow jackets, wasps and hornets. Their biology is that they don't have a barb on their stinger. And so, what they do is they very aggressively will grab ahold of you with their legs and mandible and just jam that stinger, the tip of the abdomen, into you as many times as they want.

And so that's why you get a lot of venom injected at once. And this is happening hundreds or thousands of times as many yellow jackets can grab on to you and start stinging you. They also really like to go to highly vulnerable areas because again, you're invading their territory. They just want you gone. And so, they'll target dark spots like your eyes, your mouth, your nose, your ears, that really delicate soft tissue. And so, they'll just grab on and start jabbing you. So, it's really unfair, I think, the honeybee, I feel like it's a little bit, you know, there's at least some justice in the world when they sting you. But yeah, the little devils that come out of the ground, they just go at it.

Shane Harris

And the yellow jackets actually leave a pheromone mark. We've talked about that over the years in our literature, our publications. That's why they chase you Chip, is they know where to go. Not only are you big and ugly, they continue to find you and they go after you repeatedly stinging you. There's a bullseye, there he is, go get him.

Chip East

Once they sting you, the others know to come. Sting. It's a call.

Meredith Shrader

Yeah. They release, an alarm pheromone that will call their buddies in. There's also the scent of the venom also will trigger something. So, there's a couple of biological cues that allow them to target you. And so that's why sometimes you have to abandon your lawnmower and run for the hills. That's never a fun situation to be in. But that's why they can keep following you even after they've, you know, you've left that immediate area.

Shane Harris

That's amazing, you can't get rid of them. They're after you. They're, they're still on your britches leg or they're still around your face. And people just need to know that to get away from the area because they do. They know where you're at.

Meredith Shrader

Yes. It's a very visceral reaction when you, you know, get stung and you swat it and then you get ten on you. And so, a lot of people will sometimes get disoriented and go into panic mode. That fight or flight response. And so

yeah, it's just abandon what you can try to seek shelter, your car or anything. Just remember that some of them have latched on to you. So even once you're in your house, be sure to do a check to get them off you.

Shane Harris

Chip, they also are very curious. We've seen honeybees, yellow jackets, hornets sort of hover around us, especially our face trying to check us out. Can you explain a little bit of that? What are they doing? And then for our listeners, don't be swatting at them.

Meredith Shrader

Yes. The best thing you can do is just kind of stand still. I know that's hard to do. But stand still. There, checking you out they are monitoring your CO2. You're in their environment, kind of seeing what you're doing. Yes. And they're curious. They're just looking for something and interacting with their environment. But the worst thing you can do is swat at them because you can hit them and get a sting inadvertently from that. Just stand still. I know it goes against everything you've been taught, but sometimes they are curious and you'll start walking away and they'll follow you. And you think you're being chased. And so just stand still. Paper wasps tend to do this, too. Just looking, checking you out. But, yes, they're just taking in the environment.

Chip East

Dr. Shrader we were sharing a lot of stories before we even started this podcast about yellow jackets. And I will tell you, one time I was on the tractor, and I guess I was bumping a stump trying to push it up, and I hit a yellow jackets nest. I didn't know it, but one got in my face and I swatted it. But after I swatted, I knew there was more than one. So, I just jumped off the tractor and ran. I did get it turned off, cut off, and I ran. Well, that afternoon, late, I let them settle down and then I'll go this afternoon I'll get that tractor. I went back the afternoon, and they were camped out all over that tractor. I mean, up here, there I got to looking as I got close. They were ready for me hours later and they didn't forget that I was there bumping on them that morning.

Meredith Shrader

What they marked that tractor still had that pheromone on it too. And so, it's still in their environment. They know it's not supposed to be there. So, they're just kind of their on high alert. And sometimes that's what happens when you do try to go in and retrieve something. The good thing about yellow jackets is that they aren't night active.

So, they do eventually will all go back down into the ground nest for the night. And so that's, you know, if you've had a bad reaction and you see them, that they're there in the afternoon, go back when it's when it's nighttime because they all do go home.

Shane Harris

They tend to be more aggressive in the fall. You know, they are checking you out a little bit more often. You see them around the picnics, the ball fields, around the trash cans, Chip when you're picnicking and they see them

around rotting fruit. We talked about the rotting, pears and things like that on the ground. Why are they, if you explain, why are they a little more aggressive or nosy at that time of year in the fall?

Meredith Shrader

Yes. I think we talked about the shift with the reproductive a little bit, but they're also they're in gathering mode to try to provide for all these individuals, these reproductive individuals. And the colony is just big. And so, they're on a mission. Their biology has kind of shifted a little bit. And so, they're just trying to take as many resources. And if you're competing with them for resources, then they are going to be a little bit more aggressive. When they're around, the soda cans and the soda pop and the trash cans, sometimes it's unavoidable. And so just they're when they're away from the nest, they can still be aggressive, but

they're, they've shifted into trying to get those resources. And so just be aware, you know when you're putting cans away just be a little bit more wary of the environment. If you see them going in and out of one particular trash can, you know, make a smart choice and go to the other one, or, you know, be a little bit more, vigilant with your approach to them.

Chip East

And the person emptying the trash cans, probably at night after dark would be the time to do that if you could, because they can be a lot of bees around that.

Shane Harris

Over the years, we've talked to a lot of schools where they have issues with yellow jackets around trash cans on playgrounds and things like that. And so that's one of the control recommendations we recommend is, take care of the trash cans, empty the trash cans or put them away from the playground area. And so, those that deal with the Friday football games and the Saturday football games, keep in mind that those yellow jackets are going to be a little aggressive because they're looking for the sugar and other food options, because it seems to be a little bit more limited in the fall as we have a transition of the seasons.

Meredith Shrader

Yes. And of course, fall football games, baseball games, fall ball.

Shane Harris

A lot of people picnicking.

Meredith Shrader

Exactly. Enjoying the cooler weather. One thing that you can also do is you can move the trash cans also if possible. Because they do cue in on a location, like honeybees do. You can move the sugar water for the hummingbirds. They will find it but if you're going to have a night or an afternoon where people are going to be there, you can even cover them with something so that they can't get access.

But moving them, which I know some of those are bolted down so that people can't five-finger discount them. But, sometimes even just moving or changing modifications or washing the trash cans a little bit might be worth it to prevent stings and encounters.

Chip East

Dr. Shrader and I know yellow jackets are not always in the ground. You'll see their colonies different places, but how are some different ways that we can treat the nest?

Meredith Shrader

The most common way that I tell people to treat the in-ground nests, there can be aboveground nests with them, and that gets a little tricky. But, when they're in the ground, I like to tell people to wait till it's dark so that you have the maximum amount of them in the hole, in their area. And then, if you can, you can cover the hole the entryway with screen or mesh and run a hose and put dish detergent in there with the hose. And so what that does is the soap breaks the surface tension of the water. And that allows the water to coat the insect's body. And so, they'll drown. And that's the best way to, to get them. I tell people to set it and forget it. I mean, just turn that water on, add your soap, and you can go in the house for a good 10 or 15 minutes before you have to come back out and check on it. Just make sure that the edges of that mesh are really in place. That's the easiest way to do it.

Sometimes, people won't have spare dish soap, or they don't want to use their \$7 bottle that they have, and they might have, seven dust or other products that are dusts. And so you can take advantage of the wasps, or the yellow jackets going in and out and dust the hole. And so, when the wasp and yellow jackets come back in, they get it on their body. They take it into the hive into the nest and then they get it on others. And then they groom themselves and they pick up the insecticide that way. So that's another way that people deal with them, however, that's, that's you might have to reapply that. And depending on what product you use, it might be a little pricey. So, I prefer the dish soap method.

Chip East

And if I didn't have access to the water hose that would reach that far, and I just wanted to mix it up in a bucket, I could do that as well.

Meredith Shrader

You could, again, I would do it at night when they're not as active. The sprays that you can purchase, that are the hornet sprays, they're effective, but you have to stand there and kind of do a targeted spray. And again, you're paying a premium for that insecticide that has a propellant in it. And so, it is usually a high knockdown product, which is good because you don't want them flying out at you. But you have to stand there, the hive has to be active during the day in order to get the best bang for your buck, and then you have to dig up the nest to be sure to kill everything. Versus the flooding method.

Chip East

I like the flooding. Good advice. Thank you.

Shane Harris

We've dug deep in the topic of yellow jackets so far, but stay tuned as we're going to take a break right here and continue this conversation with Dr. Meredith Shrader and now turn our attention to hornets coming up in part two. In the next episode of *Southern Ground*.

Announcer

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