



Season 2 Episode 1 – Talking Turf

January 9, 2023

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 everybody. This is your host, Olivia Fuller, and a stand-in cohost, Katelyn Keshheimer. You might know her from a different podcast, the Crops Team does. We're so glad to be here. We've got Joshua Weaver. He is an Assistant Professor in the Horticulture Department. He specializes in turf, and we're going to talk to him about that today. We've not done a turf episode, and we know a lot of people love the grass.

Joshua Weaver:

Yes.

Katelyn Kesheimer:

Well, thanks for having me. I'm excited to do this crossover. Josh, welcome to the podcast.

Joshua Weaver:

Thank you guys for having me.

Olivia Fuller:

Well, we'll start off with a subject that you are the expert in here, because it's something a little different than what I usually work with on a day-to-day basis.

Katelyn Kesheimer:

Same.

Olivia Fuller:

Good. Biostimulants, turf, biostimulants.

Joshua Weaver:

Yeah. So I'll tell you a little bit about how I got into biostimulants. I was looking for a PhD to do at Clemson and always had a background in turf, and I'd read a lot of articles in Golf Course Magazine and such about biostimulants and the effects they can have on turf grass. So when I identified my advisor and his background was in turf, we said, "Some of these claims are just kind of out there. Let's research them." So that's kind of why I got into it. I found it to be very interesting.

Katelyn Kesheimer:

Today you're wearing orange and it's Auburn orange, not Clemson orange. Correct?

Joshua Weaver:

That's right, yeah. Auburn orange, not Clemson orange.

Katelyn Kesheimer:

So how long have you been here at Auburn?

Joshua Weaver:

I started here in July of '20, so right over two and a half years.

Olivia Fuller:

COVID years.

Joshua Weaver:

Yeah, yeah. So finishing my PhD was during COVID, and then my first semester teaching here was in COVID. So it was very interesting times.

Katelyn Kesheimer:

I'm in a similar boat to Olivia, I know very little about turf unless we're talking about insects in turf. So Josh, you're going to give us an introduction to biostimulants and really how turf managers can incorporate them into their programs. So let's start easy. Give me and Olivia softball here. What are biostimulants?

Joshua Weaver:

All right, so essentially they are organic materials that when are applied will help stimulate growth. So essentially easy way to think about it is it's like organic matter from swamp bottoms that is derived and sieved through, get all the leaves, sticks and all that kind of stuff out, and you're just left with a liquid. Then that is applied with water in tanks across lawns, sod farms, golf courses, if you will. So just essentially it's just like organic humus, if you will.

Olivia Fuller:

Is that where it always comes from?

Joshua Weaver:

Typically yes. So leonardite is another source. One product that I've researched, it was derived out of the Okefenokee Swamp in Southeast Georgia.

Olivia Fuller:

Local.

Joshua Weaver:

Yeah, it was very local. Yeah, it was just interesting products, but that's essentially ... it's just organic materials that liquified and mixed with water and applied to the turf grass or other crops.

Olivia Fuller:

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So the key component of that as opposed to other organic matter is that it's liquid.

Joshua Weaver:

Yep, yep. There are some companies now that are also trying to encapsulate prill, a fertilizer. So you'll see there's some products out there now that there will be humic added into the bag of fertilizer. So just trying to go out in a more granular fashion as opposed to a liquid fashion.

Olivia Fuller:

And they can be applied on anything, or is it the-

Joshua Weaver:

Yeah. Yeah. No, it can be applied to any crops. There's a lot of research where it's being done in row crops. We're talking about turf here. It's one of those products too it's unregulated. Okay? So what I mean by that is the fertilizer you use or the pesticides you use, there's a regulatory body, a regulatory agency that has said, you're calling it a triple-10, it is a triple-10, biostimulants, we don't have a regulatory market for that. So there's a lot of skepticism to do they work or not. Snake oil is one thing it has been called before.

Katelyn Kesheimer:

Well, we're talking about whether or not they work. What do they do when they're applied correctly in the right amounts with the right product?

Joshua Weaver:

Yeah, so that's a great question. So one thing that I've seen through my research is a better nutrient uptake, a better rooting length, specifically talking about turf grass. The humic acid works in a way, that's one biostimulant, there's several of them, but creates fractures in the soil. So as those fractures are created, roots are able to drive down deeper into the soil. Another thing you can also see is less water use, because again, if you have a deeper root, the turf doesn't dry out as quickly. So yeah, that's some 30,000-foot view of what you can do when applied properly. They can be applied with other chemicals as well, so they can be tank mixed, which makes them very easy to go out as well.

Olivia Fuller:

So I'm understanding it as an alternative fertilizer.

Joshua Weaver:

Yeah, there are some biostimulants that do have an MPK analysis, but most of them are just ... the jug may just be humic acid in that jug, like 12% humic or two percent humic or whatever. So yes, it goes in a long conjunction with your regular program.

Olivia Fuller:

Okay. So talking about cost with that, would it be beneficial for farmers to utilize that?

Joshua Weaver:

So yeah. I mean, cost is anywhere from about seven to \$25 an acre. So generally a rate is anywhere from two to six ounces per thousand, but you'll see products out there anywhere two and a half gallon jugs I was looking at

earlier was like \$90. Okay, well that's more in the 25, \$27 an acre range. It gets pretty expensive. However, over a period of time, a couple growing seasons of using humic, you may see less ... you have to use less fertilizers. So where you spend more over here, you may spend less here. So it kind of balances out in the long run.

Katelyn Kesheimer:

All right, so at \$25 an acre, what are you getting for that price? Why is there some hesitancy for growers to be using this if they are promoting root growth and using less water and promoting a more sustainable environment?

Joshua Weaver:

That's a great question. One thing around that is there's not a lot of research that has been done. There has been research conducted in turf. Virginia Tech's put a lot of research. In row crops, not so much. So it has been harder for farmers to adapt to using biostimulants just because there's not been a lot of research done. Again, it's not regulated. So we have a multitude of companies out there that are putting out biostimulants and they slap a label on the jug and say, "This is 10% fulvic, 10% humic." You have no way of knowing if that's actually what you're getting or not.

So Europe has jumped the US as far as regulations are concerned on this, and they actually have a European Biostimulant Council. Now any biostimulants that come forth in Europe have to go through a regulatory process. In other words, research has to be conducted and they have to prove that the product did work and then it can be sold. We are trying to get that here in the US. The 2018 Farm Bill mentioned biostimulants, and then USDA, EPA and stakeholders are supposed to come together and figure out a good definition for biostimulants and who's going to regulate them. Does it fall into EPA's side? Does it fall into FDA's side? Which side does it fall in? I think we're still probably a couple years away or more from actually having regulations in place. I think once regulations are in place, we will see more growers adapt to using biostimulants.

Speaker 5:

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Katelyn Kesheimer:

In the meantime, we're not in Europe, we're in Alabama. How can growers discern between snake oil products and products that really will enhance their operation?

Joshua Weaver:

That's a great question too. Basically dealing with a reputable distributor. There's several reputable distributors out there. If a company just pops up overnight and says, "We have this product," I would do my homework on

that. If it's a reputable distributor that's been around for awhile and they're standing behind the product, nine times out of 10 they have paid for some university research to be conducted and they've done some trials themselves and have some data. So I would ask the distributor, "Do you have any data to back up your claims on this product?"

Olivia Fuller:

That's helpful. This seems very promising for the growers. Is it similar to something else that is, in my brain, considered snake oil too, kind of like the sludge situation?

Joshua Weaver:

Yep, biosolids and such like that?

Olivia Fuller:

Yeah.

Joshua Weaver:

Yes. Yep. It'd be similar to that. Sometimes you see products packaged, especially on the granular side of fertilizer, it'll have biosolids, poultry manure and humic acid kind of combined into one. So yeah, you could put it on those same lines.

Olivia Fuller:

Okay. And both are promising? Are there universities in the Southeast doing research right now?

Joshua Weaver:

Yeah, there are universities doing research on this. There is promise from my research that we did at Clemson on turf grass. Then I have research being connected here. I mean, we see promise mainly with root growth and root length and an overall healthier plant, if you will. With humic acids and biostimulants, it's just not something you're going to apply it one time a year and expect to see results out of it. It has to be a continuous part of your program.

Olivia Fuller:

Okay. Well, that's great. I mean, so people don't have to necessarily look to Europe for a lot of this information. It's happening here and people can not be quite so scared of it.

Joshua Weaver:

Exactly. Yeah, there's a lot of peer-reviewed journal articles there on biostimulants, not only on turf but also in row crops as well.

Katelyn Kesheimer:

That was going to be my question was going to be where can people find more information? Also, Olivia direct them to ACES and our extension agents, which we can always put you in touch with Josh to talk about his research and specifically how biostimulants would work in Alabama turf systems.

Joshua Weaver:

Yeah, that's exactly correct.

Olivia Fuller:

Thank you so much for coming on and talking to us about this.

Joshua Weaver:

Thank you very much for having me.

Speaker 1:

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