Season 5 Episode 16 — New Specialists Join the Team

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Announcer

The Alabama Crops Report Podcast, your trusted information source for Alabama agriculture.

Scott Graham

Hey, everybody, welcome into another episode of the Alabama Crops Report podcast. Simer. We're going to do it a little bit different today. We've gone outside of Auburn for a guest.

Simer Virk

I was thinking about it just that, is Wilson our first industry guest on the podcast?

Scott Graham

He is yeah.

Wilson Faircloth

All right.

Simer Virk

Here we go.

Scott Graham

So we have Wilson Faircloth with us from Syngenta. Wilson, appreciate you driving over to Auburn from Georgia to visit with us.

Wilson Faricloth

Absolutely. Thank you for the invite.

Scott Graham

So, we'll introduce the topic in a second, but take a quick, just to introduce yourself.

Wilson Faricloth

Yeah. Thank you. It's good to be here. It's good to be back in Auburn. For those that don't know, I am Wilson Faircloth. I'm an agronomy service representative with Syngenta Crop Protection. I grew up in the state of Georgia. I got a degree in plant biology from University of Georgia, but I spent seven years here on the plains, got my master's and PhD in weed science.

Wilson Faricloth

So it's always good to come back to Auburn. And, I've been, spent a while with USDA at the National Peanut Research Lab and have been with Syngenta for right at 15 years now. And, working on the technical side of things, agronomy services, is basically technical services, you know, helping sales reps in their territories, managing the technical aspects, developing products, not R&D necessarily, but, taking those products right

when they're ready to be commercialized and turning them into something that farmers can actually use on their on their farm.

Scott Graham

And then for our YouTubers out there, they may know the peanut doctor.

Wilson Faircloth

They may.

Simer Virk

Yeah.

Wilson Faricloth

Yeah, that's that moniker has gotten some legs under it. And so, you know…

Simer Virk

How did it get started?

Wilson Faricloth

Well, good question. So we had a team that does our, you know, marketing and things like that. And they knew that I had spent time at the peanut lab, and that I had my PhD, and somehow somebody come up and said, well, you're the peanut doctor. And then they began a marketing campaign all around it.

Wilson Faricloth

And it was actually it was pretty clever, you know, and, and it's been fun. So…

Simer Virk

Yeah.

Wilson Faircloth

We've got YouTube videos, we've got a giant peanut.

Scott Graham

Dressed up like a doctor

Wilson Faricloth

Looks like a doctor.

Scott Graham

Yep. Yep.

Wilson Faircloth

And I have been known to wear a doctor's coat sometimes.

(All laugh)

Wilson Faricloth

All in fun and games. I don't wear it normally.

Scott Graham

Yeah, yeah, yeah, that's what I would say to.

Wilson Faricloth

I don't wear it in the peanut field.

Simer Virk

I guess my other question, when you were at Auburn, who did you work with?

Wilson Faricloth

Yeah. Good question. So back in the way back, before you guys were oh, you guys were young. Yeah. I came to Auburn in the fall of 97' and worked with doctor Mike Patterson, who is an extension weed specialist. And, I did my master's under Mike, and then, switched gears. I did cotton weed control and then, you know, an emerging thing at that time, right around the year 2000, was invasive species really getting a lot of traction.

Wilson Faricloth

So I spent most of my PhD actually working on Kogan grass, down in South Alabama. Mobile, Baldwin County, burned up I-65.

Scott Graham

I was going to say, at least you got to go close to campus to do that.

Wilson Faricloth

Yes, exactly. Spend a lot of road miles. But, enjoyed my time here. And, of course, I stayed in touch with all the row crop stuff, but, you know, it was nice getting a diverse background of weed science. Not only the row crop stuff, but non crop, land rights of way. Got a lot of funny looks doing research alongside I-10, in Baldwin County.

Scott Graham

I can imagine, yeah.

Wilson Faircloth

Understanding the effect of a semi-truck on a four nozzle spray boom.

Scott Graham

That's a yeah. Yeah.

Wilson Faricloth

Something you don't encounter every day.

Scott Graham

That's not in literature, i’m sure.

Wilson Faricloth

There's no documented way to deal with that. That's right.

Scott Graham

Well, Simer kind of my idea of inviting Wilson on the podcast was, a couple of weeks ago now or maybe a month or so at the Southern Peanut Growers Conference. I heard, in my opinion, the three best back to back to back extension talks I've ever heard. That was, Doctor Taylor Singleton. Right. Who's the…

Simer Virk

Sustainability specialist at Georgia now.

Scott Graham

The University of Georgia. Doctor Mark Abney, who's the extension peanut entomologist. And Doctor Wilson Faircloth with Syngenta. And kind of the theme was, Taylor talked about the role of the Endangered Species Act and those types of things, on where we are with current registrations of materials we already have or new ones. Mark talked about the role of the university or the land grant system in helping bring along new products.

Scott Graham

And then Wilson talked about kind of he spoke on behalf of industry, obviously with the Syngenta flare, but on top of it, on behalf of industry, on bringing in new products. And when I talk to some farmers or overheard farmers in the background talking, everybody was just like shocked when they heard Wilson's talk, because it's a little bit of inside baseball.

Scott Graham

I would say, Wilson, all the things that, you know, maybe we know some of that kind of stuff just from, you know, talking with you, you know, during the year or whatever. But most people who aren't involved at some level don't know that, farmers don't, you know, don't know, retailers don't know, what all goes into it.

Simer Virk

Well and to some extent and I was just thinking about this, last 4 or 5 years only, you know, with a lot of, like, other dicamba stuff or some other peanut, even insecticide stuff happening where they're not available anymore, all that. One of the things you always kind of hear people like, oh, there are new chemistries out there, you know, and and it's more kind of just cautioning like, hey, companies are developing new products, you know, so you kind of even like, I don't know yet because, you know, again, you listen to the talk.

Simer Virk

So you know, a lot more to my like, I'm like, what does it really take to bring a product. You know.

Scott Graham

With that comment? Let's ask the first question, and I won't to ask to give away any of your company secrets, but on average, about how many molecules are, is a, one of the big basic companies looking at.

Wilson Faricloth

Yeah, sure. So good question. And it is a little bit of a peek behind the curtain as to what's involved. So, Simer, I'm glad this is kind of you're hearing it fresh for the first time. You're Scott, you're getting a refresher. But, on average, companies like Syngenta, Bayer Crop Science, Corteva, whoever it is, we all consider ourselves R & D companies.

Wilson Faricloth

That's what we do is we develop new tools. But you're looking at about screening anywhere from 150 to 175,000 different molecules to find one. So just one that you may bring to market. And I thought about this on the drive over this morning. How do you, how do you picture that 175,000 to 1? And of course, the one analogy that kicks off tomorrow night is college football, right?

Scott and Simer

Mhm.

Wilson Faricloth

We love college football. So I thought about this. If you took, you know, our two favorite schools in here, right? Well, Scott, you might disagree. University of Georgia and Auburn University, you take Sanford Stadium holds about 95,000 people. Jordan-Hare holds about 87, something like that. That's about 175,000 people altogether. So imagine giving one person in one of those two stadiums a $100 bill and say, go find it.

Scott Graham

Yeah.

Wilson Faricloth

That kind of brings it into perspective of what you're looking for. Now. There's tools and shortcuts we can use to get to that. We might you know, first of all, you could eliminate all the students because nobody under 30 carries cash anymore, right?

Scott Graham

Yeah, right.

Wilson Faricloth

So, you know, you automatically know that it's going to be an old guy. Right. But yeah. But so there's tools we can use to narrow that down. But still it's, it's about 175,000 different screenings and testings of different molecules to get to the one product that you're going to bring to market.

Simer Virk

Are these products usually just that one molecule or is it a combination of a few differents?

Wilson Faricloth

So a lot of times it's a suite of molecules that are similar. So let's just say, you're and it's not as random as you think. It's not like there's just a guy in a laboratory, you know, pouring up two test tubes.

Scott Graham

The peanut doctor.

Wilson Faircloth

Yeah. And hoping that maybe this will kill pigweeds, or maybe this will kill cotton jassids.

Scott Graham

Yeah.

Wilson Faricloth

You know, usually it's a targeted approach that says I want to develop an insecticide that has the following properties. You know, it's, it'll, you know, kill Lepidoptera, insects, but it won't kill whatever else. And so they have a focus. And a lot of times as they narrow these things down, they may have 2 to 3 isomers that they bring that are, you know, cousins of each other.

Wilson Faricloth

They behave similarly, but maybe have slightly different characteristics because undoubtedly 1 or 2 of those is not going to pass some final test, whether it's toxicity, whether it's, you could get something as simple as there's no way we'll be able to manufacture it at a cost that a farmer could afford. So you bring 2 or 3 things to select one.

Wilson Faricloth

So it is kind of a group of chemistry usually, you know, some, you know, slight change. I'm not a chemist but you know, some slight molecular change. Then you can decide which one of those you're going to take to the final market place.

Simer

Hm. Okay.

Wilson Faircloth

It's a good question.

Simer Virk

175,000. Wow.

Scott Graham

That's a lot.

Simer Virk

That's a lot.

Scott Graham

And so all right, so let's say we find our molecule. What's it look like from there? So you've already mentioned okay this one kills, we'll just say cotton jassids, because why not. So what. So we've identified this. It kills this insect. Then what do you do?

Wilson Faricloth

That's right. Well you have to back up a little bit that that 175,000 is, you know, if that's day one, then by the time you get to that product that you're you, you realize, number one, you can you know, it has the efficacy you are looking for. It has the toxicity profile that you're looking for.

Wilson Faricloth

It has environmental safety, the human safety. And it's a product we can make at a reasonable cost. In other words, it starts you checking these boxes. You're talking at least 12 years in this process.

Simer Virk

Just for filtering out.

Wilson Faricloth

Yes, for filtering it down and going through the final stages of testing. But you're looking at 12 years and that contrast. That's why the meeting you were talking about, Scott, was important. Because around the year 2000, up to about 2005, we could get from that. That 12 years was only about eight years, maybe 8 to 9.

Wilson Faricloth

So in the last 20 years, we're adding length to that time. So Simer, to your point of what are the chemical companies doing, and how come I'm not seeing new products? Well, not only are they hard to find, but they take so long to get them to where we need them to be. Because you have to do all the testing and you do more testing.

Wilson Faricloth

Then you can even want to do, because you've got to make sure you, you know, cross every T and dot every i, you have to.

Simer Virk

Is the reason for more time also that it's getting harder and harder to find because some of the options have already been exploited in a way that. Right. But is it also partly because of the restrictions getting a little bit more tested, or requiring more harder testing.

Wilson Faricloth

Yeah. It's both. And so again, back to the analogy of the guy in the laboratory, you know, pulling up our test tubes. We know that okay, a certain class of chemistry, is effective. Again, which since we're talking about jassids, will use jassids. We know this is effective on jassids. So we take that molecule and we twist it a little bit, or we add, you know, something to it, or we take something away and we try that.

Wilson Faricloth

So it's a targeted approach. And so yeah, we begin to exhaust a lot of the things we've done. And so that the process does take longer because you look at the if you look at the number of compounds that are on the cutting room floor, at this point it's millions, right? Because if everyone's 175,000, do the math.

Wilson Faricloth

I mean, we've studied literally tens of millions of compounds over the years to see what we can use. But so it is harder to find the thing you want. But also you're, you're correct. The testing process. I mean, we want to be safe. I mean that, you know, that we absolutely don't want to cause harm to the environment or harm to each other.

Wilson Faricloth

And so the testing gets more and more rigorous. And we have to meet those standards. And, you know, just like anything else, the testing itself is undergoing research and development. Tests get better. Sometimes they get harder. And so it yeah, it just takes longer to get that. And like anything, sometimes you reach a plateau and then sometimes you actually go backwards a little bit.

Wilson Faricloth

You think, well I've got the compound I want. Then you get a report that you don't like. And so you, you have to back up and maybe you make some changes maybe. And then you go forward again. So it's not just a stair step. It's not always linear. Sometimes there's a little bit of a curve, a little bit of roller coaster ride sometimes to get those products to the market.

Scott Graham

And there's a really important thing hidden in there that hasn't been mentioned yet, and we'll probably tie it in later, but as soon as you identify something that you think maybe has a shot, you got to go ahead and patent it.

Simer Virk

Oh, that’s right. Yeah.

Scott Graham

Yeah, because Company A's got 175,000 things or whatever. Company B's got it, company C's got it. And you just can't bet on “Well we’re so much better than them. We found this and they didn’t.” And so as soon as you patent it, your clock's ticking.

Simer Virk

Yeah. You got to like data and show that.

Wilson Faricloth

Yeah that's right.

Scott Graham

Yeah. And then there's 20 years for a patent. Is that right?

Wilson Faricloth

It's 18, actually.

Scott Graham

18.

Wilson Faircloth

I think.

Scott Graham

18 years.

Wilson Faircloth

Right.

Scott Graham

So on average it's taking you 12 years to get it to market. So you've only got six years left on your patent.

Simer Virk

But do you patent it after 12 years when you find it or you go ahead and do it?

Wilson Faricloth

You have, well, I'm not a lawyer, but you have to patent it pretty early on in the process because like you say, somebody else, if you don't do it, somebody else will. To Scott's point, chemists are, we all know what we're looking for.

Simer Virk

Yeah.

Wilson Faircloth

You know, so a lot of, you know, if it's a, if you consider it like a gold mine, we're all looking in the same mine.

Simer Virk

Yeah and in a way…

Wilson Faircloth

You know?

Simer Virk

A patent is not tied to that you actually have the product ready. It's like, hey, this is our idea and…

Wilson Faircloth

Yes.

Simer Virk

Yeah. So okay. Yeah. Because the other thing and I've only dealt with a little bit of patents and other stuff on the technology side or machinery side. And I know that like once you say, hey, we have this pattern, we want to follow this.

Simer Virk

You have, I don't know, so many months or years that you actually have got to show and prove the data and all that.

Wilson Faircloth

Right.

Simer Virk

Is that a similar timeline kind of in the chemical side?

Wilson Faricloth

I don't know for sure, but I would expect that because, like, some sort of, time of proof of proving your concept.

Simer Virk

Yeah. So, like in, in, if, and I may, may be misspeaking, but I know it's a very short time on the machine. Newer technology, if you think you have the next technology, everything and you start to patent it, you have like a year to 18 months to like actually go out, prototype, test it, collect data to make sure they hold the patent for you.

Wilson Faircloth

Yeah.

Simer Virk

If not, they release it, you know.

Scott Graham

Interesting.

Simer Virk

Yeah. So it's just a competition thing. Like you don't want to say I have an idea and take 20 years to sit on it while they're like, well, we already do all the product. Company B is, you know, like we have it ready to launch.

Wilson Faricloth

Yeah. Well, the development it's gotten more complex. You know, I look back again when I was first a graduate student, you know, here at Auburn in 97', we were at the end of the glory days, let's just say, of some of our pesticide discovery, especially herbicides. Back then in the 80s and 90s, it was great, right.

Wilson Faricloth

Because if company A came out and, take the Dinitroanilines, which are like our yellow herbicides, like Prowl or Treflan. Company A came out with one. Everybody else knew that we could take that base molecule. We could twist it a little way, or we can add a little something to it. Oh, now we got us one, too.

Wilson Faricloth

And so that's why you had all these different herbicides that look very similar. Maybe they had slightly, you know, one's better on pigweed. One is not quite as good on pigweed or etc., but those days are likely over because we've exhausted all those possibilities that there's no longer that room, that, oh, I can just take molecule X and add another hydrogen group to it.

Wilson Faricloth

And, and all of a sudden I've got one, too, you know, so it's and AI, I'll bring that up, AI, is changing the way we're developing herbicide or not herbicides, but all pesticides. I'm not going to sit here and pretend I even know how, but we all use ChatGPT for fun. You know, we tell it to make a funny picture, or we, you know, get it to, to roast our family Easter picture or whatever it is.

Wilson Faricloth

But AI, the machine's learning and intelligent learning like that is helping our chemists accelerate that process. You know, a lot faster. So, yeah, there's some. It's not all doom and gloom. There are things that are helping us, you know, do better in the discovery process.

Simer Virk

It's become, I know I've seen a lot of kind of, because some of our colleagues, they do a high throughput phenotyping work and all that for selecting cultivars and all that. And like with AI, they say, what used to take us months, now takes less than a week, because we can feed the data to the model and we tell the model what we're looking for.

Wilson Faircloth

Correct.

Simer Virk

And, it goes straight to that without someone sitting there in the lab. And just like taking a look and comparing results across each other.

Wilson Faircloth

That's right.

Simer Virk

So, that's definitely going to hopefully help even on the chemical side. Right?

Wilson Faircloth

Right.

Simer Virk

Even though you said we went from 80 years to 12 years, who knows? That might help even push it back.

Wilson Faricloth

Yeah, I think. I think one way AI has helped us a little bit, is with the cost. Now costs are still extraordinary and they're still going up. But you know, if you can take away parts, the cost of some parts then that helps. And so I think AI is going to help with some of that because some of our traditional wet chemistry that we may have to do in the laboratories, we may not have to do because the AI can say, you know what?

Wilson Faricloth

Let's just eliminate this group of compounds from if you're trying to kill, you know, pest X, AI can say there's no way these, these, these compounds are going to do that. So we can just take them off the table from the start. So, you know, just narrowing down, you know, going back to our stadium analogy of trying to find a $100 bill if we, you know, it's a Georgia fan, then we don't have to look in Jordan-Hare Stadium, right?

Wilson Faricloth

We don't have to look there for the guy with the hundred dollar bill. We can just look in Athens, you know, so we can use AI to narrow down where we look.

Simer Virk

When, and I was thinking about how the industry works in that perspective. So when this is, in the R&D team side.

Wilson Faircloth

That's right.

Simer Virk

So when where we're talking about a team from an industry side working on something like that. Are there a group of people? Only a couple of people? Or is it a huge team that have different functions or?

Wilson Faricloth

Yeah, there’s, it's multi-disciplinary. I mean you've got biologists that screen the compounds that they're looking at, you know, does it really, kill a pigweed or not or does it, you know, kill a peanut, right? I mean, if it kills a peanut, who cares if it kills pigweeds? And you've got chemist, you've got biochemists, you've got molecular biologists.

Wilson Faricloth

Physicists. I mean, you've got and you got mathematicians and everybody else in between to help, help conduct that process.

Simer Virk

Oh, wow.

Wilson Faircloth

So yeah, it's very multidisciplinary in its approach.

Simer Virk

Because I was just thinking we usually say industry is so fast even it takes time. On coming up with this versus university research. If we have to come up, I don't think we have the resources or the power or something like that. Right. I was thinking about, like our weed scientist friends, or other like, can they come up with a new compound? Probably not.

Wilson Faricloth

Well, I mean, every once in a while you get you get good luck in developing compounds, but those are few and far between. And I use the example of Mesotrione, which is a common corn herbicide. People know it as Callisto, and it's an ingredient. That product was found, a little bit serendipitously by a scientist who noticed under the bottle brush plant, nothing grew, so he extracted and again, this isn't the exact story, but he figured out what it was that the bottle brush plant was exuding from its roots.

Wilson Faricloth

He mimicked it in the laboratory, and all of a sudden he had a blockbuster corn herbicide. That's used all around the world.

Simer Virk

Nice.

Wilson Faircloth

So sometimes you get lucky.

Simer Virk

Mhm.

Wilson Faricloth

But most of the time you don't. You have to be intentional. You have to be, you know, you have to look for that needle in the haystack. But every once in a while you get lucky on something like that.

Scott Graham

Roundup was kind of like that too. Wasn't it?

Wilson Faricloth

I've, I've heard stories that it was like really being looked at as a cleaner or sort of industrial cleaner.

Scott Graham

And they noticed where they poured it out like nothing grew.

Simer Virk

Nothing grew.

Scott Graham

Yeah, I've heard that. I've heard that story before.

Wilson Faricloth

We'll have to ask Vent Hicks.

Scott Graham

Yeah, that's right. Yeah.

(All laugh)

Simer Virk

So what is, next thing, is time is one thing, cost?

Wilson Faricloth

Yeah well time is money.

Simer Virk

Yeah.

Wilson Faircloth

That’s what they say, and costs are high. So I gave, I tried to walk through in that presentation how things have changed over time because a lot of people remember what it used to be like. And they don't realize to your point of how much things have changed. And so going back to our, you know, turn of the century, analogy of it was maybe 8 to 10 years to develop a new compound. At that time,

Wilson Faricloth

you're looking at a cost of maybe $150 million to bring a product to market. And I say those numbers, if you're wondering where I got that number, there's some really good data published by CropLifeAmerica, which CropLifeAmerica is a broad organization that represents a lot of big companies in research development.. And so that's not a Syngenta number.

Wilson Faricloth

That's some data I got off their website, but they estimated at that time, you know, about $150, $160 million to bring that product to market, to include the investment by the chemical company or the registrant, into research and development, registration, formulation, all that stuff. If you fast forward the latest data we have from CropLifeAmerica ended in 2020.

Wilson Faricloth

I believe it was, and it was, about $325 million.

Scott Graham

Yeah.

Simer Virk

Gah - lee.

Wilson Faricloth

So that kind of puts into perspective the amount of money that companies are investing. So, you know, you get the common feedback, man, why does your stuff cost so much? Well, that's one reason why. Because the investment to get it to where we can sell it to you is in excess. And that's five years ago, right?

Wilson Faricloth

Six years ago. So I made, I just did an estimate on my own. I think it's probably closer to $400 million now in 2025 dollars.

Scott Graham

And you consider your patent life has been reduced as well.

Wilson Faircloth

That’s correct.

Simer Virk

Yeah.

Scott Graham

And so that impacts how long you have opportunity to,

Wilson Faricloth

Now, just remember too. We're not talking about one product that you can sell, that would be one active ingredient.

Scott Graham

That's right.

Wilson Faircloth

And from that active ingredient, you may sell five different products in the United States to include. Well, you might sell some in Brazil, you might sell some in China or India or wherever else. So it's not like that's just one product that you can sell, but that's one active ingredient that you can then take and use.

Wilson Faricloth

And, you know, you may pre-mix it with other products. You may sell it solo. But yes, you're still looking at, you know, 3 to $400 million per active ingredient that you bring in that's new into the marketplace.

Simer Virk

If we have to look back, just say, as a decade over the last three, 4 or 5 decades, how many chemistries per decade have been released, or is there some new that came out like.

Wilson Faricloth

Yeah, that's a good question. I don't know if I have numbers for you, but I can say this, we kind of referenced it earlier that the the 60s, 70s and 80s were some of the golden ages of chemical discovery. And again, we're going back, you know, 50, 60 years. Those products came out in a different landscape, different time frame.

Wilson Faricloth

Some of that's good, some of that's bad. Right? Because we didn't, we know things about toxicity we didn't then, we didn't know back then. But those were the years when, you know, a small company could come out with a compound and they could sell it and make a lot of money and really do a lot of good for farmers.

Wilson Faricloth

It has greatly slowed down. If it was a curve, it would be a huge, it would have a much of a curve to it. Just for example, I think one chemical company has a new herbicide that they either launched last year or this year. That's the first new mode of action in herbicides, I think they said in 20 years, new mode of action.

Wilson Faricloth

That's not to mean the first new herbicide, but the first new mode of action in 20 years. Now, insecticides have had a few more discoveries in different modes of action. But geez, using weed science as a discipline over the last 20 years, one new mode of action.

Simer Virk

Wow.

Wilson Faircloth

That's incredible. So there's, it’s been a huge slow down in what we can bring to the market as far as new chemistries.

Wilson Faricloth

And again, anybody can, not anybody, but you can synthesize something that we already know works. But now the magic is finding those new modes of action because we're getting resistance, whether it's insecticide, where it's a herbicide, fungicide. We've got to find new, new ways of overcoming resistance.

Scott Graham

And that's part of why we're going to have crops that are genetically altered for 4 or 5 herbicides soon.

Wilson Faircloth

Yeah.

Scott Graham

Right. Because can’t find anything new.

Wilson Faricloth

Can’t stack it and cheat.

Scott Graham

So, we got to figure out how can we spray what we have over these crops without killing them.

Wilson Faricloth

That's exactly.

Scott Graham

It's it's just it's crazy.

Simer Virk

So there's all this going on on the chemical side, but then breeding efforts on crops for some of…

Scott Graham

Yeah, trying to identify how can we, if we can't find a new herbicide, how can we alter the cotton plant so we can use what we have without killing it. And this is kind of the easiest option, I assume.

Wilson Faricloth

That's right. And I don't know near as much about cotton and soybean and corn, which there's tons of, you know, trait work going on in those areas. But just take peanuts, for example. Most of your modern breeding efforts or current breeding efforts are looking at where can we find wild species that have a tolerance to leaf spot or white mold?

Wilson Faricloth

And I know, you know, every major peanut breeder, whether it's Charles Chen here at Auburn or Barry Tillman at Florida or Nino and Bill over at UGA, they've got lines that have resistance to fungicide or to fungus. And so from a chemical perspective, i'm like, I don't know if I like that or not, but at the same time, we have to have it right, because our, our fungicides, we don't have a new mode of action right now.

Wilson Faricloth

And so if we wear out the ones we have, then that's, you know, too bad. I mean, what are we going to do? So we, it's good that breeders are looking at this and you know, they have some, some just using peanut examples, some really good tolerance to early and late leaf spot. And that's incredible. And it might change the way we manage peanuts moving forward.

Wilson Faricloth

And I look forward to the challenge of that. You know it may change the way I do things. Who knows? I imagine Mother Nature will always find a way to come up with something to throw at us.

Simer Virk

Yeah.

Scott Graham

Oh, yeah. Yeah. Like cotton jassids.

Simer Virk

Like all the all the peanuts. I always kind of think about this, I remember, Ping Chee talking one time and cotton breeder at UGA, you know, like, ask somebody asked him about, like, cotton variety or something like. And, like it takes a lot to release a variety, you know, like, we're talking about chemistry, too. On the peanuts side.

Simer Virk

So on the cotton, corn, beans, there's a lot of these big companies releasing commercial varieties and all that. Why hasn't that happened in peanuts?

Wilson Faricloth

Yeah. Good question. I guess when you look at the overall footprint of peanuts, we, you know, in Georgia, Alabama, Florida, we think it's a big deal. It's one of the main drivers of what we do in agriculture. We plant cotton because it's a good rotation for peanut. Right. We plant corn because it's a good rotation for peanut.

Wilson Faricloth

So if you're a company like Syngenta and, and you can, you know, you have that that carrot in front of you of 100 million acres of corn and soybeans or you got a million acres of peanuts. Where are you going to put your money? I mean, I think I'll speak on behalf of all chemical companies.

Simer Virk

Yeah, yeah.

Wilson Faircloth

It's, it's a logical decision that, of course, if I was in charge, I'd be like peanuts first.

Simer Virk

Yeah.

Wilson Faricloth

But, I mean we, we can’t do that.

Simer Virk

Well, now.

Wilson Faricloth

You know.

Simer Virk

That kind of relates so much to what we do, I always kind of take example of all these, planting technologies, spray technologies. There's so much geared towards corn and beans, you know, that either we have something for cotton, maybe to some extent or completely not for cotton and peanuts, because they're like, oh, we treat that as a specialty crop in a way, you know, and we don’t make stuff for a specialty crop.

Scott Graham

Yep.

Wilson Faricloth

Yeah. And in the discovery process, that's exactly right. Often, the specialty crops, get the second look. In other words, we're screening it for efficacy in the major crops around the world. Rice, cereals, corn, soy. Those are the biggies. So vegetables, peanuts, and then, like where I live near Albany, Georgia, pecans. You know, we don't, we're not out looking for a new pecan scab material.

Wilson Faricloth

We get a new pecan scab material when we find out that it's good somewhere else. And oh yeah, it's also good on pecans (PEE-cans) by the way.

Simer Virk

Yeah.

Wilson Faircloth

So, or pecans. However, you say it.

Scott Graham

Pecans (puh-KAHNS).

Simer Virk

I was going to ask him, how you spell it, what do you call it?

Scott Graham

Pe-can (puh-KAHN).

Wilson Faricloth

No, that's wrong. That's absolutely wrong.

Simer Virk

That’s the piece…

Scott Graham

A pecan (PEE-can) is. Well I won’t say it.

(All laugh)

Scott Graham

Wilson, one other point that you've alluded to several times, but I think it's important for us just to say it because of, again, I heard four farmers talking about this after your talk. Is the level of investment that your company, Bayer, Corteva, BASF, that they put into research and development of new products that not, you know, not if you're not those big. Did I name everybody?

Scott Graham

I don't want to leave anybody out. Syngenta, BASF…

Wilson Faricloth

FMC.

Scott Graham

FMC. Yeah.

Wilson Faricloth

There's others, I'm sure.

Scott Graham

I don’t want to leave anybody out, but the big companies are the ones that are using money to find new stuff, not just selling old stuff. That’s off patent and I think that's important that y'all can't go out of business because that's how we get new stuff. Because to your point, Simer, if we try to do it in academia, it'll take our whole career to come out with one thing that.

Simer Virk

If we find anything.

Scott Graham

Yeah, if we find anything, it'll take 40 years. So I just think that's a very important point.

Simer Virk

Yeah.

Wilson Faricloth

Yeah. I appreciate you saying that. And again, it's, the products that we sell now are the fuel for the engine.

Scott Graham

Yes.

Wilson Faircloth

Right. If you think of this thing as an engine, if you're not buying the products from Syngenta now, then Syngenta doesn't have the money to develop the next thing. It's not like we can go. We're a private corporation.

Wilson Faricloth

We can't go to the government and get a grant to try to develop the next pesticide. So we do rely on our customers again. Not just Syngenta. I'm wearing my industry hat as a whole now. We appreciate the support of our farmers because when you invest in the product we sell today, then that allows us to bring you the product tomorrow that you really need for the pest, that you may not even know that we're going to have.

Scott Graham

Like cotton jassid.

Wilson Faricloth

Like cotton jassid. Yeah. Like, yes. I mean, you, our new insecticide who I mean, again, I use that as an example. You buy, you know, peanut fungicides from Syngenta now, you're helping make sure that this new product gets kicked across the finish line. And then hopefully next year we can send this jassid back where it came from.

Scott Graham

Simer can take it.

Simer Virk

Yeah. Hey. So is it going back to your point. And I see there's a lot of similar other things you know not just like because we're always complaining about something, why this is not available. This is not coming, all of that. Is it because again it goes back to how we are promoting certain things in Ag, in a way, or is there not enough transparency and light on like what you are like sharing now, like, hey, because after knowing about it, you have a little bit of appreciation for like, man, they're working all the time to find this, right?

Scott Graham

Yes. But at the end of the day, in the current economic landscape, we have in production agriculture, if you can save $3 an acre, that's a big deal. And that's kind of what's driving it is.

Simer Virk

Yeah.

Scott Graham

Is price. Yeah. It's something cheaper.

Wilson Faricloth

That's right. And there's a time and a place for everything. But it would be the same thing whether you go from AG, if you go to pharmaceuticals, if you buy brand name pharmaceuticals, you're doing the same thing. You're supporting the development of the next cancer treatment drug.

Scott Graham

Yeah.

Wilson Faircloth

You know, you think about that and I'm the first one to go in, the dollar store and just buy the house brand.

Wilson Faricloth

I need to think about that. Is that, should I be doing that, or should I be buying the name brand stuff? So that, you know, the next thing that's like Covid whenever it comes out? Well, we'll have something to treat it. So, you know, it is important and it's a lot of just lack of information, Simer. That's a good question of not thinking that, oh, if I buy this, I'm helping make sure that I have the next generation.

Wilson Faricloth

It's an investment. It really is an investment. It's not just chemical companies trying to get rich. I'm not saying people in Syngenta or Bayer and other places don't make good money, or that the companies aren't profitable. But at the end of the day, we invest. I think the last number I heard was Syngenta was about $2 billion a year into R&D.

Wilson Faricloth

That's billion with a B, you know, so a lot of the money of the products you buy is coming right back in again to that engine. It's the fuel that keeps this thing running.

Simer Virk

Good deal.

Scott Graham

All right, anything else?

Wilson Faricloth

No. I appreciate y'all letting me come on. I mean, one thing we didn't talk about real quickly is, biologicals. And I just wanted to mention that, you know, that's. I see biologicals is a little bit of a workaround on some of this thing as far as developing things new. I mean, the timeline is going to be less because that will have to because they're generally considered safer.

Wilson Faricloth

They're going to be a little easier to get through the process. So right now, biologicals I use the example. It's kind of like, the guy with the electric car ten years ago, we all made fun of him because they weren't very good. But now everywhere you go, there's Tesla's and they're great cars. Five years from now, we may be talking about how good biologicals are.

Wilson Faricloth

So I feel like they're going to hit. Every major company is investing in biologicals. Maybe they're not a big deal today, but I think they will be. And when they get here, I think that'll help us again, just be another tool in our toolbox to be able to bring solutions to farmers quicker.

Scott Graham

To that point kind of you, you brought up a really good point in your presentation that turned into a preliminary exam question for Caitlin. That was, create the, what if you could create an insecticide, what would you want it to have. And, nearly every one of those characteristics makes it harder to get it through.

Wilson Faircloth

Right.

Simer Virk

Yeah.

Scott Graham

Right. Broad spectrum, long residual.

Scott Graham

Whatever. Makes it harder. Biologicals maybe can help us get around that a little bit.

Wilson Faircloth

That’s correct. Yeah.

Scott Graham

But that also is part of why you mentioned sometimes you think you're getting close, and then you hit a roadblock and you guys step back and start over because maybe the residual is too long or it is too broad spectrum or whatever.

Scott Graham

So that I, that just triggered in my brain when you mentioned biology.

Simer Virk

Is it possible and maybe I'm ignorant on this area right now, I've seen a lot of kind of biological work and all that focused on the nutrient side. More like uptake efficiency, and other.

Wilson Faircloth

Sure. Yeah.

Simer Virk

You think in the near future we might see something similar for insecticide fungicides, all to make them work better?

Wilson Faricloth

Yeah, absolutely. I think every major company has some sort of division that's working on biologicals, whether it is like almost like a, I don't know if this right word, like a catalyst to make a pesticide work better or whether it itself is a pesticide but a biologically derived pesticide. I think everybody's looking at that and thinking that could be, that could really help us.

Wilson Faricloth

And again, maybe they're not ready today. And, you know, sometimes somebody has a biological and we all snicker a little bit like, “Eh, this biological is not very good.” But again, it's just like the old guy with the old electric car. One day we're all going to want.

Simer Virk

High yield doors, I mean, swear by it, man.

Wilson Faricloth

Yeah. You know, one day, one day we're going to want one.

Simer Virk

Guys who are using it and making some good yields like, they a lot of times you heard them they they mentioned those in there. That's right. Like that's not the only thing making high those. But they like we do use those. So.

Wilson Faircloth

Yeah.

Simer Virk

I don't know if they got something figured out. They're working with the right people in the industry to make sure that everything else they're working, the biologicals help even them become more effective or something like that.

Wilson Faircloth

That’s right.

Simer Virk

Pretty cool.

Scott Graham

Well, Wilson, we appreciate your time and your insight.

Wilson Faricloth

Thank you for letting me come on. So yeah, it’s been a very good conversation.

Scott Graham

Yeah. We also appreciate you working with us and, you know, helping us get our hands on new products that come out so we can help make the best recommendation for farmers. When new things do come to the market. And I'm not speaking just for myself, but for, you know, weed scientists and pathologists and everything that we appreciate the ability to see this stuff before it's ready to go.

Scott Graham

That really helps us.

Wilson Faricloth

Yeah. Well, thank you for letting me come on. But also, again, to your point, we can't do it without the University involvement. We need your critique of our products to say, “hey, this is good” or, “hey, this may not work so good,” for our growers or for our situation or your, you know, suggestion of,

Wilson Faricloth

“Hey, have you thought about this?” Thank you for bringing the cotton jassid to our attention.

Scott Graham

Yeah.

Wilson Faircloth

I think it would have come to our attention.

Scott Graham

He’s talking to you, Simer.

Simer Virk

Just to mention to highlight that point is that we were riding back from lunch with, I had a visitor from Brazil, Doctor Lucas, and we were just talking, and he's like, the University industry seems to, like, work very close here. And I'm like, that's kind of our strength right here.

Wilson Faricloth

Exactly.

Simer Virk

In the South or in the where we are. And I've been in Georgia, here, and other states that we're all working towards the same problem. It's like we're working together.

Scott Graham

Yeah.

Wilson Faircloth

That's right.

Scott Graham

Yeah for sure.

Simer Virk

Yeah.

Scott Graham

All right. Well again appreciate everybody's time today. Enjoyed our conversation. And as always, if any of us at Alabama Extension can do anything to help, please don't hesitate to reach out and let us know.

Announcer

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