Weeds AR Wild. Season 4, Episode 3

Arkansas Row Crops Radio, providing up to date information and timely recommendations on row crop production in Arkansas.

[00:10] Bob Scott:

All right. Well, welcome to the Weeds AR Wild podcast series as part of the Arkansas Row Crops Radio. My name is Bob Scott, extension weed specialist for the University of Arkansas System Division of Agriculture. Today we're gonna discuss ryegrass. I had not been back in this position for even one week before I started getting calls on ryegrass burn down failures. And it's clear to me that this needs to be a part of my research and extension programs going forward. But since I'm a little new and been out of the game for a while, I didn't feel like I could do this alone. So before I get started, I want to introduce my special guests today here on the Weeds AR Wild podcast. First, I want to welcome Dr. Jason Bond, extension weed scientist and research professor from Mississippi State University and someone who I would say, Jason, out of necessity, has become a leading expert on ryegrass control in the Mid-South. Welcome.

[01:07] Jason Bond:

Thanks. Bob.

[01:09] Bob Scott:

I also wanted to ask someone who's truly out there on the front lines dealing with these issues and problems firsthand as a consultant and a weed scientist himself, Mr. Tyler Hydrick. Welcome, Tyler.

[01:23] Tyler Hydrick:

Hey, Bob! Pleasure to be here.

[01:26] Bob Scott:

Great. Dr. Bond, tell us, I wanted to start off by a little bit of history. When I was a weed scientist before, and even in the before time. When Tyler was probably still, you know in school, high school, grade school, ryegrass was in wheat. I mean, I dealt with lots of ryegrass control issues in wheat. We had Hoelon resistance which some people may not even know what that is, but it really started becoming a problem in Mississippi, probably first, and I think in a truly epic way, forcing you to become a ryegrass specialist cause so can you tell us a little bit about how that evolved.

[02:07] Jason Bond:

Yeah, so long story. How I got involved with it, that doesn't really matter. I think one of the reasons that Mississippi was kind of first to the party on that. If you go back 25 years or so and I wasn't even really, well I wasn't working in Mississippi at the time, I was still in school, but we had a decent amount of no till at the time, and I think we've got some numbers up there. Of course that's not been a thing for many, many years now, think there's other things that have fed into it that I can't prove, won't get into, regardless mid 2000 is when it really became a problem for us. We documented the first glyphosate resistance over here in, I think 2005, ’04 or ’05, and so, right before I got to Stoneville, really, I got here in 2006.

And so those first 2 populations were right here in the greater Stoneville area. So if you're not familiar with the Mississippi side of the Delta picture where hwy 82 goes across. You know, we're the first county

east of the channel of the Mississippi River and it spread from there and the Hoelon resistance is still here, Bob, you know, if you go and spray a ACCase herbicide in that family such as Asure you're gonna find the whole lot of resistance. ALS resistance is also widespread in our populations, the ALS wheat herbicides that were commercialized in the late 2000. So, '08, '09 and they're Power flex and Osprey, great herbicides. They were not good on our ryegrass, because that stuff was, it was ALS resistant before those were ever even tested, let alone commercialized.

[04:05] Bob Scott:

Yeah, they were really short lived over here. They worked great for a couple of years in wheat and just to clarify, you know the Hoelon is a fop, I believe.

[04:06] Jason Bond:

Yeah, that is. It's a fop, so the other ones are Assure and Fusillade. Clinchers a fop, RiceStars a fop. Those are kind of more mainstream, especially for our rice growers.

[04:18] Bob Scott:

We were able to use Select because it's a dim, right. Is that correct?

[04:24] Jason Bond:

And so we've relied heavily on, I mean, there, we've screened, I don't know hundreds of herbicides. I don't, really don't know anymore. I used to have a running tally, or number at least, of what all we had screened. But the 2 things that we have that will control ryegrass after it comes out of the ground, is Clethodim, which is Select, and a bunch of other products, or Paraquat. Liberty is also really good on it. The problem with Liberty is at the time of the year where we need to target ryegrass is not the time of the year you need to be spraying Liberty. When it's cloudy, it's cold or cool even, that's just not a time of the year where you want to use Liberty. So we don't use it. So basically, we have Cethodim. And we have Paraquat.

Therefore, over here we have relied heavily on fall residuals to control that first flush of ryegrass. Y'all promoted that years before, Bob. Well, controlling the first flush even before you were in that position in wheat, you know, taking it out with either roundup before it was resistant, or with tillage right in front of the drill on wheat. Very, very effective, particularly if you have a population that is a heavy fall flush, and you don't get a significant spring flush.

That's a really effective tool to combat it. So fall residuals, and then Clethodim and paraquat is what we have relied on. Unfortunately, we have several counties that have Clethodim resistance now. Don't have any paraquat resistance in our state as of yet. They do have some in south Louisiana in the sugar cane area, and there's some in North Carolina as well. And we've had Charlie Cahoon from NC State down here to speak at the row crop short course in the fall about the ryegrass. They have some pretty scary stuff. No-till rolling hills, really, really tough for them to do anything with it.

[06:30] Bob Scott:

Not to get too deep and too weed sciencey about this. But our friends in Australia saw this coming with rigid ryegrass.

[06:37] Jason Bond:

Oh no question, I mean rigid ryegrass, and Australia is resistant to everything they've ever sprayed on it, and it's even evolved to where it's you could call it resistant to some of their cultural practices. So

they're, you know, they shift, planting date. They shift different things and seed start, you know. They selected populations to where the seeds start shattering before their grain crop gets ready. So it's constantly evolving, not unlike a Palmer Amaranth.

[07:04] Bob Scott:

And I just wanted to touch Tyler. I'm gonna get to you. I hadn't forgot about you up there.

[07:10] Tyler Hydrick:

You're fine. I'm just thinking of questions to ask.

[07:12] Bob Scott:

Yeah, that's me, too. And just to lay a little bit more groundwork for this conversation when we talk about using Paraquat, Jason. Isn't it almost always going out with a photo system II, in either cotton or beans to up that control.

[07:28] Jason Bond:

We don't recommend it without that on a row crop acre. So whether it's corn ground, bean ground, cotton ground, we always recommend one of the PS2 inhibitors that's compatible with that crop. You know, some of them are compatible with multiple crops, others are not so.

[07:47] Bob Scott:

So. Metribuzin, for example, would work in corn or soybean, and

[07:51] Jason Bond:

Correct.

[07:52] Bob Scott:

And I guess Cotteran in cotton.

[07:54] Jason Bond:

Yeah. And Coverall and Direx

[07:57] Bob Scott:

There you go. I'm not a cotton guy. Thank you

[07:59] Jason Bond:

And then the Direx could go on a corn acre too. Direx or Atrazine

[08:03] Bob Scott:

That's right, that's right. And and then one thing we'll get into in a minute. But we really don't have a PS2 to put on rice acres, and we'll talk about how that's getting into rice.

[08:13] Jason Bond:

Well, so propanil, right? Propanil is a PS 2 Inhibitor. So you would think it would work to fill that gap actually will not. For some reason they won't mix. And we've tried different propanil formulations. We've tried different propanil formulations with different paraquat formulations, and I get a big tub of cottage cheese, so never have promoted that. I don't know why they won't mix. We played with rates and everything, but it just will not go together for some reason.

[08:46] Bob Scott:

Gotcha. Well, that's.

[08:49] Tyler Hydrick:

Come to my mind on that. And then I decided it wouldn't be best for the podcast to ask that question.

[08:57] Bob Scott:

We're gonna lay it all out there in this podcast to I told you, I can edit if I have to Tyler. No, so, Tyler, I think our growers in Arkansas south of I-40 and I'm not blaming Jason for this, although he crosses the bridge a lot down there. You know, have been seeing the glyphosate resistant ryegrass for some time. But the problem, it seems like is just steadily but slowly march north, and we can, one thing we proud to talk about is the biology, Jason, of ryegrass before we go get finished with this. But, you know, Tyler, you're starting, you can you tell us a little bit about where you consult, and you're starting to see it in your part of the world as well.

[09:41] Tyler Hydrick:

Yeah, so.

[09:42} Bob Scott:

Pretty far, north, now so.

[09:43] Tyler Hydrick:

Yeah. So I'm in northeast Arkansas. I'm based out of Jonesboro, and I scout in Poinsett, Green, Mississippi County. Mississippi and Poinsette up being my biggest to a little bit in Craighead county, and then I have a couple of guys in the Boot Hill of Missouri, that I work for. But our ryegrass situation, I mean, we've watched it evolve. And one thing that I'm grateful for is that I did go to Mississippi State, and so I did get to see the ryegrass, and, you know, dug the first Select resistant plants up in the field and took them back to be tested. So I kinda knew what I was getting into when I came back up here and started my business and we, me and my dad both, we both consult and we both tried to get ahead of the game, and so we you know, we were so intellect on everything early, trying to trying to keep it beat back where a lot of guys were still wanting to go with round up. And they were getting, you know, a 60% kill or something like that. Well, now, we're to the point where we're getting maybe a 10% kill with roundup. And there's still guys who are doing that. And it doesn't work and then they end up, you know, having to make 5 tillage trips, and that you know, getting to the biology of ryegrass. You've seen it when it comes out of the ground it comes out with tillers on it. So it's already big. You know what we would consider a big weed, but as it grows it gets robust, and it is hard to disk. It's hard to kill. Everything about that plant is hard. The the root mass is unbelievably large. And it's just it's a tough, tough plant, and it's a very resilient plant. That's why we're sitting there having to talk about why it's resistant to everything, you know. So in our area, we, I like to think that we've done a pretty good job, and we're still behind.

You know, last year was our first really big fall residual year, and I know we'll get on that in a minute. But the fall residuals did really well. And I feel like we're pushing that population down. The hard thing is, it's, there's so many seeds, and they're so easy to distribute across a field, you know, as soon as a combine header hits it, I mean, you've got streaks all the way through the field.

[12:08] Bob Scott:

And then. And then where does that combine go next? Because that seeds gonna ride

[12:13] Tyler Hydrick:

Yeah to the next field. Yeah. So it's tough to keep under wraps. But one good thing about it, and you know, correct me if I'm wrong here, but I think that the life of that seed is a 2-year cycle. So you know, if you can, if you can spend 2 good years of good residuals and early applications and doing everything right. You you can really put a dent into the population. But the hard part is, everybody says, well, I've got this 40-acre field or this 40-acre block of land, but you know 3 acres of that's probably the turnrow. And they just want to spray the 37 acres that they're farming. Well that 3 acres worth of turnover is a big, big, big, big, big, big, big deal, because that's where it's coming from. So.

[12:59] Bob Scott:

Right.

[12:60] Tyler Hydrick:

Paying attention to that spraying our turnrows. It's been something that that we think helped us. But I mean here I am saying this, and you've dug ryegrass out of my field to be tested for Select resistance. So I think we're there. I've got. I've seen several fields in Mississippi county in particular that I would say our control is less than adequate with Select, and there's no doubt it's in Mississippi County. I mean the ryegrass that I've sent to y'all, dead plants next to live plants looked exactly like it did when I was at Mississippi State, so it's questionable, to say the least.

[13:38] Bob Scott:

Yeah. And you did mention, we are currently testing 1 or 2 populations for both Select. And we're gonna throw in Paraquat resistance, Jason, just to, you know, it's just as easy to test for 2 things as it is.

[13:52] Jason Bond:

Sure!

[13:53] Bob Scott:

As it is to test for one.

[13:53] Jason Bond:

On that. So I've spoke to y'all's consultants and and said this, what I'm about to say, and Tyler's right. He, I sent him to get the first clethodim resistance over here, and so he's seen it from day one. The problem with clethodim, and Tyler said this as well, that ryegrass is big when it comes out of the ground right? So if you go and read the clethodim labels, and there's a lot of products, bunches of them, dozens. If you go and find ryegrass on those labels, the labeled application timing to target Italian ryegrass with clethodim is 2 to 6 inches. For us more years than not, that happens sometime before the first of November.

Now, if you have a fall residual that's different story. It's gonna shift that later, as that residual starts to break and new plants emerge. Point being, the majority of our clethodim applications go all, go out way beyond the the labeled application timing for clethodim. In addition to that is going out in January and February. It's either cold or it was cold a few days ago, and it's warmed up and it's either wet or it just dried up and, and so you've got a big plant that's growing in poor growing conditions. And so absolutely, we have a lot of clethodim resistance in Mississippi. No doubt there's probably some in Arkansas as well, but all of the failures that we experience with Clethodim over the past 5 years have not been the fault of Clethodim. It's just a herbicide that is not 100%. You're not guaranteed 100% to start with. It's not round up on susceptible ryegrass. 90% is about all you're gonna get to start with, if everything's perfect. And

then you start clicking off those things that are not perfect, and 90 turns into 60 pretty quick, and 60 looks really bad from the highway.

[16:04] Bob Scott:

I think that's a really good point, Jason.

[16:08] Tyler Hydrick:

I'd love to tell you that I've seen a single application of clethodim go out at the perfect timing, because I don't think I have ever and I don't think I've recommended it at a perfect timing either.

[16:19] Jason Bond:

Well, it's near impossible to. It's a catch 22, Tyler. You cannot. It's set up to fail when we start.

[16:20] Bob Scott:

So I got a call from Jason Norsworthy. He and Tom Barber could not be on the call with us today, which is good cause, they'd probably take up all the time talking. So we we got the thing to ourselves. But I already got a call from Jason, and he's like you're back in extension role, he said. I got, you need to get out and do some extension work and talk about ryegrass and these timings. And I really think that's where we are. We need a grassroots program to talk about what Dr. Bond just said. When is that optimum timing? Is it going to work? Is it not going to work? Tyler, I'm really glad you brought up the biology aspects of ryegrass. It is not pigweed, you know pigweed last 7 to 10 years. You cannot clean up a field, because every time you disk it you're pulling up more pigweed seed and you know, lots of research has been done trying to figure out ways around that. But 7, 8 years is a long time to keep a field clean. That's why we have the hard time eliminating pigweed. We do have success eliminating ryegrass. If we can keep those edges clean and those turn rows. And that's an important biological difference between those 2 weeds, because I think I saw a study, Jason, and you correct me if I'm not, if I'm wrong. It was an Oliver study, something like 98% of that seed germinates for following year, and that that doesn't germinate is not very viable. Is that right? It's something like that.

[17:56] Jason Bond:

Yeah, so something like that, Bob, I know it's about 18 months, Tyler said 2 years. So about about 18 months to 2 years is what the seeds viable. We've got bunches of fields that used to look like hay fields that guys don't even treat for ryegrass anymore, because they cleaned them up.

[18:14] Bob Scott:

It's possible. So it is possible to eliminate, you guys need to keep that in mind when Tyler recommends spraying the turnrow, this is something, it's not pigweed. This is something we can actually accomplish. So. You might be able to sell them on that, Tyler.

[18:29] Jason Bond:

The straw's real stiff, you know, said they, make seed in May and June, and you'll run a soybean combine through it and spread seed. So it, Tyler, when he said that he wasn't talking about a wheat combine. He was talking about soybean combine or Bob, you might have said that. But it, you'll see streaks across the field, and that field hadn't had wheat on it in years, or it'll, you know, streak off the turnrow where it just creeps out in the field a little bit, and then, you know, a piece of tillage equipment or a combine either one will just drag it out into the field. And then couple years, you got a real problem.

[19:09] Bob Scott:

Tyler, due to tillage and stuff in Arkansas, this has not been a problem that we've seen in rice. But, as you know, and I know there's a percentage of rice out there that's gone to no till or to a row rice, and then we also have a lot of fall preparation of these fields where these things are pretty well ready to plant in the spring. And so are you seeing this problem developing rice where we haven't had it before.

[19:38] Tyler Hydrick:

Yeah, I mean, Bob, you can draw it almost to the day that you till the field. So you know, just we'll look at, you know, row rice environment just using it as an example. So I've got guys that you know those first soybean fields they harvest. It's probably dry whenever they harvest it, and they can go in there, and they can get all the other field prep done, you know, right after the combines leave, and then they've got this slicked off field that looks beautiful. Well. you know, I think our rye grass emergence dates probably somewhere around October tenth, you know, on an average year, and if you get ryegrass emerging on October tenth, it's gonna start on the field that you tilled first more than likely, just because it's, you know, everything's ready for it. And then the stuff that we till in October we have less ryegrass going into planting. Now again, fall residuals really help with that. But you can tell what fields got tilled first or last, or in the right window for emergence, and it's that's a stark thing to see. But you know I'm trying to get back to the root of the question, but I mean that's the tillage is a tool. And the earlier we're tilling with these falls that we've had the past few years, I mean, we're there's definitely more of a problem. And then, you know, we will till up a turnrow. It's hard to get it sprayed, but we'll till it. So we'll move the seed out that way.

[21:16] Bob Scott:

Well, I know I can't tell you how many times in my career I probably told guys, hey, that ryegrass won't be there, cause I mainly cover rice, and I'd be like the flow will kill it. It probably won't make seed, but if it's thick enough it can be a problem getting a stand of rice. There's studies out there that it's allelopathic. It takes a while to mature and you gotta get to that flood. So you got some competition with your little baby rice out there trying to grow so. I think this is a problem that we need to look at. And and, Jason, I want to go back to you a little bit on fall residuals. I know you've done some studies, I have, too. We have some plant back problems with the group 15. My, biggest problem with them is it's all over the board. Sometimes I put one in, and I have no problem planning rice back to it. Other times I put it in and we're borderline on tolerance. Or we actually see stand loss that I can attribute to injury from them. So we don't have a good recommendation for those. I know we've had some luck with Command in the fall. So can you comment a little bit about that? I just, I'm listening closely because I do plan on having a program this fall where we spray a bunch of stuff for ryegrass in the fall and plant back into it next year.

[22:40] Jason Bond:

So our primary treatments, or our biggest volume treatments that have gone out in the fall for ryegrass have been metolachlor. So Dual, a lot of that goes out as Boundary on being ground and and corn ground. Zidua has been really really good for us. And and then there's some other ones that either are not labeled for that timing, or don't perform quite as well. Clomazone, which is Command and and other things, is the only product that you can legally use in the fall and safely plant rice in in the spring. It's really effective on ryegrass, if you know time properly, and you control what has emerged at the time of the application. Super super effective treatment. Doesn't interfere with your total for the year all that bad. I'd like to use a higher rate than what we do but the rate we use is still very effective, particularly once used in a program, you know, with the post treatments that we talked about earlier, the Clethodim

or the Paraquat, so we usually use a pint and a third Bob, and you probably could go a little bit lower than that on the lighter textured soils that you all have in a lot of your rice areas. We don't have that, as a rule, most of ours is gonna be a clay. And so in that case, that leaves us a pint and a third to use in the spring, and I may not have the numbers exactly right, but I think we still have an adequate rate that we can use at planting. As a rule, we don't use a lot of Command in our post treatments in rice. We tend to err towards Prowl and Facet on those post treatments. So ours is, most of ours is going to go out at planning, and so a pint and a third will more than cover us in most situations.

[24:32] Bob Scott:

And then you guys are probably like in a severe infestation, you coming back with Select or the Paraquat?

[22:39] Jason Bond:

Yes, yes, sometime early winter for the Select, and then a little bit later, for the Paraquat.

[22:48] Bob Scott:

You know, getting back to what Tyler said real quick about the timing and and the label.
I think there's a 30-day plant back on select to a lot of these crops, and it surprises me how many times that comes into play. It should not come into play, really, if these things are going out at a good timing.

[25:08] Jason Bond:

Yeah. Now, Well. Go ahead Tyler.

[25:10] Tyler Hydrick:

Well, one of the things about that timing Bob is, you know I can go scout the field. My farmer can go buy the product. We can take it down to the airport, but I mean, you know, they may not have their planes, because that's when they're getting serviced and all that stuff. And I mean you're just kind of at the mercy of the applicator then, so.

[25:30] Bob Scott:

Yeah. Meanwhile the ryegrass is getting bigger every day, and plant date’s getting closer.

[25:39] Tyler Hydrick:

Yeah, that pushes a lot of our applications. Yes, to that.

[25:41] Jason Bond:

We had a guy 2 years ago, Tyler. He's a top operator, in my opinion. As a consultant. 6 weeks
he had a recommendation on the books, and it was, you know, first one thing and another. It was they had, you know, 2 planes up instead of 4, and then it was weather, and you just, a bunch of things conspired to mess that up. And even if it's not 6 weeks, if it's 2 weeks and the weather is right in the wintertime, you're looking at a completely different situation over the course of six weeks.

[25:42] Tyler Hydrick:

Yeah.

[26:17] Jason Bond:

Let alone longer, a longer period. I mean, it completely changes the recommendation.

[26:21] Tyler Hydrick:

Yep.

[26:23] Bob Scott:

We have about reached the end of our time today, and I think this has been an excellent discussion. At thirty, it's almost 30 min it went by really quick. At least to me it did. Any final thoughts from either of y'all? Any, anything that we've left out? Tyler, I'm sure I'll be reaching out to you as we're working together on these samples. But also as we develop protocols and Jason, you too, for that matter. Again, you have the experience. So.

[26:51] Jason Bond:

One thing, Bob, and just because or let me let me say that again. One last thing, Bob, on prairie ground. So the stuff that's not flat, whatever y'all call that, that fall residual is not for every acre. And I say this because I did not qualify my recommendations or suggestions for many years and I've tried to, I guess, correct my sins in the past few years. There's not a fall residual that you can put out and control ryegrass and leave the broad leaves to hold the world together, so to speak, to keep the soil from washing, and vice versa. I can't control the broad leaves and leave the grass. There's some, it's gonna work on some things for a little while and other things for a long time. So don't spray the whole world with fall residual. Try to target it as particularly on more erodable soils to where that's needed. And I think in rice that's going to be for y'all on the prairie ground.

[27:59] Bob Scott:

That's a good point.

[28:03] Tyler Hydrick:

Yeah, I mean, one last thing that I wanted to add is just some things that I've tried and things that I'm looking forward to trying and maybe y'all would have some input on. But I've used extremely high rates of Clincher to try to beat ryegrass. That doesn't work.

[28:20] Jason Bond:

No.

[28:21] Tyler Hydrick:

Looking in a rice situation, and when I say extremely high, I mean extremely high rates. That didn't work. RiceStar's the same way, like we said earlier, Hoelon is a fop. Those are both fops. It doesn't work. Don't, don't try, don't waste money. It's expensive as crap to do that, and it does not work. I've also, one of the things I'm looking at next year to do is we get a really really good ryegrass control in our wheat with Zidua & Metribuzin. And so, you know, maybe on a field that I know is locked into soybeans, going into planting, looking at that February timing. Maybe going ahead and putting some zidua and Metribuzin in there to really keep that ryegrass under control, because we will get spring flushes, and those spring flushes are really what caused me a lot of hours spent looking at ryegrass fields. So that's that's one of the places I'm looking right now is if I can get that good of control with the zidua and Metribuzin in my wheat, maybe looking at it in February.

[29:32] Bob Scott:

That's great. Well, it's good to have things to work on as a weed scientist. But I wish, I wish it was something besides weed resistance, Jason, that seems to be like the focus of everything we do these days.

[29:47] Jason Bond:

That’s all I’ve ever done, Bob.

[29:49] Bob Scott:

Well, I'm about there with you, brother, and we, you can't, you're a lot younger than me. We don't over we overlap, but we were working on it before you came along. We're still working on it. And some of those things like the Hoelon resistant ryegrass, you know. You think that's a thing of the past. But the ryegrass genes are still out there. They hadn't forgot, you know, we changed those populations, so. Well, with that, we'll go ahead and conclude this episode of Weeds AR Wild. I wanna thank everyone for joining us on the Weeds AR Wild podcast series on Arkansas Row Crops Radio. And I want to thank both Tyler and Jason for being our guest today, we appreciate y'all being here.

[30:28] Tyler Hydrick:

Hey thanks for having us, Bob.

[30:30] Jason Bond:

Thanks Bob.

[30:33] Intro/Outro

Arkansas Row Crops Radio is a production of the University of Arkansas System Division of Agriculture. For more information, contact your local county extension agent or visita uaex.uada.edu.