

## Weeds AR Wild S3 Ep15. Brake Herbicide Use in Rice

### **[00:01] Intro/Outro**

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

### **[00:12] Jason Norsworthy**

Welcome to the Weeds AR Wild podcast series as a part of the Arkansas Row Crops Radio. My name is Jason Norsworthy, weed scientist with the University of Arkansas System Division of Agriculture. And today I'm glad to be joined by Dr. Kyle Briscoe with SePRO Ag. And I've asked Kyle to come on today and to talk with us about SePRO's new Brake label for, actually, use of the herbicide in rice. Glad to have you with us today, Kyle.

### **[00:40] Kyle Briscoe**

Thank you, Jason. Glad to be here. We're excited to have the Brake label in rice, you know, just to get started here, we, we received the expanded label on January 24. So, EPA approved it on January the 24th. And you know, the approach that we took this year was really more of a modest approach, considering there wasn't a whole lot of data points that we had. I guess to start, where we're targeting is furrow irrigated rice, and I want to get that out there to begin with because there is an aerial restriction on the label. We can talk about flood irrigated rice here in a little bit and some things that we've seen in your research. But where we've targeted is furrow irrigated rice and not necessarily marketing directly this year, more of a demo program. And the reason being, again, is, is we want to learn, we want more data points. We want some commercial use. Brake is a pre-emerge only product, so it doesn't have any post-emerge activity. The active ingredient is Fluridone. Many people know it from use in cotton and the section 18 that we've had in peanut. We do have that Section 3 label in peanut now. But in terms of use in rice being a group 12, it is a bleacher. What the label has is post-applications from the three leaf stage.

### **[02:32] Jason Norsworthy**

So I want to stop you there because you said something that intrigued me and I've looked at the label and I think there's some confusion when folks look at the label. On the very first page of the label, it says pre-emergence herbicide for use in cotton, peanuts and rice, okay. Pre-emergence herbicide. So when a lot of folks think of a pre-emergence herbicide, they think of a herbicide that's being applied at planting. So my question to you, Kyle, is, is this herbicide labeled for at planting applications in rice?

### **[03:11] Kyle Briscoe**

It is not labeled for at-planting applications and rice.

### **[03:17] Jason Norsworthy**

So then when you read the label and it says here are the use rates for post-emergence use in rice, and I go back to the first page and I say, well, the first page says it's only for pre-emergence use in rice. And so I was confused.

### **[03:28] Kyle Briscoe**

Yes, sir. I certainly understand the confusion and it should say you know pre-emerge to the, to the weed not pre-emerge behind the planter, if you will, from that standpoint on the label. But just to make it

clear, it's not labeled for pre-emerge behind the planter application in rice, only post-emerge from the three leaf stage.

**[03:55] Jason Norsworthy**

Okay. So with that, I want to step back because again, you've said several things here. January 24th, you were granted a federal label. When did you receive a state registration? Because it wouldn't have been on the 24th. It'd been sometime after that, do you recall?

**[04:12] Kyle Briscoe**

I don't recall the exact date. The state went in approximately three weeks after we received federal approval and I don't have a date on exactly when, but it was it was shortly after.

**[04:26] Jason Norsworthy**

The reason that I bring that up is some of our listeners have called me and said, why didn't we hear about this in January or why did we not hear about this in December at ACMC? Why did we not talk more about the fact? But I guess part of it was we didn't know exactly when we were gonna get a federal label. And then secondly, we had no idea as when the state label would follow that. And I think you guys for the most part didn't want to see it on a lot of acres. You wanted to see it more as a demo in 2023. Is that a correct assessment?

**[04:58] Kyle Briscoe**

Yes, sir. It as you stated, it really came down to we didn't know when we were going to have the federal label. So we weren't comfortable talking about it at all, not knowing exactly when the federal label was going to come. And to your next point, at the same time, we were looking to do more of a demo program this year anyway.

**[05:28] Jason Norsworthy**

That that's fair enough. So, you know going back to Brake registered in cotton, I can remember it was a WSSA, a Weed Science Society of America meeting with the EPA where really Brake was kicked off looking at pig weed control in cotton and then you know when I think of Brake and I go back to the cotton days, it was really all about putting it with a PS2 herbicide. It was about also really targeting pig weed with that. On your label here it's say for a range of grass and broadleaf, small seeded broadleaf weeds, including pig weed. Obviously pig weed is going to be a focus. It's the second most problematic weed that we had in in row rice. Can you comment what do you expect to get out of it? At least at the rates, the rates being 12 to 16 ounces depending upon soil texture. But what weeds are you really targeting outside of pig weed?

**[06:32] Kyle Briscoe**

So I think, you know, from a rice standpoint and you know, Jason, from doing the work that the amount of efficacy and in terms of the longevity and really the amount of control that you get out of Brake is largely dictated by how much moisture you have. Right? So the reason that I say that is, 12 to 16 ounces or which is, say, 16 ounces because that's the lowest use rate in cotton from what we've seen 16 ounces is going to go further in rice than it is in cotton just because you've got more moisture there. To that end, you know, as we go through, do the research, what we're seeing is not only pig weed control, but annual grass control in terms of, say, large crabgrass, goose grass, probably signal grass, barnyard grass to a lesser extent. I would say the first three species that I named, certainly more activity, but there is activity on barnyard grass, especially if that moisture is high. And again, we're talking about pre-emergence

activity, not post-emergence. So those would be the grass species I think that we've seen some interesting results on hemp sesbania at least from, from another typical rice weed. But again, I think from a furrow irrigated rice standpoint, it always comes back to Palmer. And the reason that this project started to begin with was how do you control Palmer, in furrow irrigated rice?

**[08:12] Jason Norsworthy**

I agree with you totally. I think Palmer is the, is the key here. And then I think anything that we get outside of that is extra. I agree with you also, I think that some of the other, the goose grass, the crabgrass, it's going to be more active on that than barnyard grass. I've gotten a lot of calls from folks over the last month and a half wanting to know, is this a new mode of action that we can use to control barnyard grass? And my response is, it has activity on barnyard grass. If I had to sit there and place a number in the mp44 today, I'm probably going to give it a 70, a seven out of ten. I'm not going to say that it's a material that I would rely on for barnyard grass. Can it provide some activity? Absolutely. It, it can. Hemp sesbania, I agree with you also there I think that there is some suppression, wouldn't say control, but it definitely has some activity on hemp sesbania. And it's going to help us out, I think, there, in terms of providing some residual control and maybe again in the water, I think it's probably going to even have more activity than, than it does on dry soil. The key to this herbicide, it's all about, it's all about moisture. So when you take a look, for instance, let's just say furrow irrigated rice, you've got moisture extremes within that field. When I say moisture extremes, you've got the top of the bed versus the furrow and then you have the top of the field versus the bottom of the field. And you know, when folks call me and ask about Brake, my response is, is I'm assuming you're holding water in the bottom of that field. And if you're concerned about pig weed, the pig weed problem is going to go away with you holding water there. You need to address your pig weed issue on the portion that you're not actually flooding. So with that, let's just kind of turn here and you know, when I'm applying Brake, it's all about taking down the weeds that are up because you've mentioned it really has no, I would say measurable post-emergence activity. You may get a little bleaching here and a little bleaching there, but it's not going to take down emerged weeds. So what are your thoughts in terms of some of the go to herbicides that you would, you would mix it with? And then I guess, what are some things that you've seen that might indicate that you'd want to stay away from some herbicides?

**[10:53] Kyle Briscoe**

So, from a mixing standpoint and again, I think you make a great point there with it's pre only no post-emergence out activity outside of a little bleaching. So you need some, some knock down with it if you've got some weeds up. If we're talking about primarily Palmer, which we are normally Loyant's been a good option in the research trials so far. And, and I would say the second best that I've seen is propanil. If you talked about some chemistry that from a, from a standpoint of I probably wouldn't recommend it right now because I want some more data, it would be your ALS chemistries such as Grasp or Regiment. And the reason I say that is we've seen, I would say when the data shakes out, it will be significantly more bleaching when you run those tank mixes. Now, we haven't taken those trials to yield yet, obviously, but certainly it's of a bit of concern as we step into this realm.

**[12:07] Jason Norsworthy**

You know, I agree with you that the I think the go to for those that will spray Loyant and for the most well, I mean it's ground only and so – it's got ariel application these days but it's hard to find an individual in the state of Arkansas that's going to put it out. So I think Loyant is one that migrates towards ground application and it has, I think, an excellent fit here with Brake because eight ounces or

Loyant was 16 ounces of Brake, as you said, in our research plots – and you had an opportunity to look at some a few weeks ago – looks outstanding in terms of residual on pig weed. Propanil, I would be fine with propanil as long as it's an early timing. And when I say early timing, I'm talking 1-to-2-inch pig. We start getting into 4-inch, 5-inch pig weed you're going to have some difficulty with propanil. And so for that reason, I really think the go to as it relates to Palmer, for the most part is going to be Loyant. But it's not also surprising that again, recommending eight ounces, part of that has to do with the fact that eight ounces is very effective on pig weed. Secondly, by getting that rate down, we generally have less injury to rice than we have with 16 ounces. So really 16 isn't needed to take care of our our pig weed issues. What about just curious as talking with Dr. Butts here the other day. I don't know if you guys have seen it any, but I know he's got a trial looking at Brake on cut ground. Have you had in any your demos, I'm just curious, have you guys looked at any on some cut ground?

**[13:49] Kyle Briscoe**

So there is one demo on cut ground. And I will say that there are spots in that field where certainly you can tell that there's, there's more injury there. There's more bleaching in areas, you know, where all the organic matter has been removed. So it's not a recommendation currently. Actually, if you look at the label, there's a precaution about putting it on cut ground because we were afraid of exactly what we saw in that demo. So yeah, to date, and I haven't seen Dr. Butts trial yet, but certainly aware of it. I'm going to get in touch with him real soon and.

**[14:34] Jason Norsworthy**

Okay. What about, one thing I want to backtrack on here and then we'll talk about kind of moving over into flooded rice. But, you know, you said it's not recommended pre-emergence. But then when I looked at the label, the label says that there is a zero-day plant back to rice. And I'm not aware of any other herbicide that has a zero-day plant back that doesn't have a true pre-emergence at-planting label. And so I mean if it has a zero-day plant back why not a pre-emergence label?

**[15:13] Kyle Briscoe**

I'll say, Jason from that point it's being conservative on our end. We've done a ton of work looking at it pre-emergence. You have trials, we looked at it three weeks ago and it looks really, really good. The conservative part of it is, and let's speak specifically to furrow irrigated rice right now, is we do see some stand loss especially at the 2x or the double-up rate if you will, in the furrows. So if it gets wet and we have a cool, wet spring and that rice in the furrows is sitting there with wet feet, sitting there drinking Brake, we have observed some stand loss. So that's why, you know, we were comfortable with the zero-day plant back interval but the pre-emerge on the label, where we didn't want to, didn't want to get go there. I suppose, just due to what we've observed in the research trials.

**[16:16] Jason Norsworthy**

So yeah, so when we actually take a look at the injury that we see in furrow irrigated rice and at least in my plot work, we're not holding water, the end of the field holding water. I'm going to simulate that in a flooded culture and we can talk more about that here in a moment. But the only time I really see injury with Brake is down in the furrow. And you're right, when you turn on the irrigation, generally, when you have cooler conditions, when you have standing water in that furrow, you're going to cause some white rice. And I think I agree with you. I think a 2x rate, if you overlap and I notice the label does have a precautionary statement on there, if you have overlap, you're probably going to have unacceptable injury associated with that. So I think that's where we need to be careful. But coming back also, I guess

along this, you know, coming back to cotton in thinking of working with it, you know, clay soils, we didn't see a lot of activity on Brake. I'm not going to say that we didn't see any activity there was activity there, but it was not nearly the activity that we saw on a silt loam soil. And I spoke to Dr. Tom Barber about that. He did some work, I think, down in south Arkansas, did some work up in in northeast Arkansas. Do you have any demos out there on clay soils? And what are you seeing, I guess, from an injury standpoint as well as from an efficacy standpoint?

**[17:48] Kyle Briscoe**

We do, there's actually quite a bit that went out on clay and some of your heavier soils. I will say that just in general, the more clay content, typically the less efficacy. Now I will say that some of that can be overcome if it's really wet because that Brake, that Fluridone exists in the soil solution and you know, it's not absorbing to the to the colloids and it being bound up from being taken up by the germinating weeds and again, going back to the label, you know, it says, hey, you definitely want to be at the high rate if you're going to be on high clay soil or highly organic soil.

**[18:33] Jason Norsworthy**

Okay. So now kind of moving from furrow irrigated where I think it has the greatest fit to moving over here into flooded rice. I've had a lot of, I'd say success in a furrow irrigation system and it's been hitting me as this were, how I'm going to term it in the in the flooded system. And it's not as much from the weed control standpoint as it is from a tolerance issue that we've seen. I noticed on the label you state in there to consult your seed supplier in terms of varietal tolerance. And of course, we've seen some differences in varietal tolerance. Is there a list or you guys do you have a list today? Are you putting a list together? How do you go about accessing this determination as to whether you have a sensitive variety? Because some varieties are more sensitive than others.

**[19:34] Kyle Briscoe**

Yes, sir. There's definitely varietal differences. And yes, we are putting a list together. We had a what I'll call an abbreviated list or a list that we were building this year that, you know, certain varieties are probably going to show more response, more bleaching than others. For example, your Dyna-Gro 263L that one's probably at the top of the list of I wouldn't use Brake certainly if you're holding water on, you know, on the end of the field, you know, but from that standpoint, if you're planting that variety enough from a furrow irrigated standpoint. From a flood irrigated again, we can get into discussing what we've seen there and certainly, certainly more injury on that from the flood irrigated side than the furrow irrigated side. Another one that I think stuck out that I didn't, I don't recall seeing last year in your trials was that CLL15. It seems like we've seen more injury there this year.

**[20:44] Jason Norsworthy**

Yeah I agree with you. I was I was shocked from the standpoint and you looked at it. We had CL15 and we had CLL16 sitting side by side and the data would indicate that 15 was definitely more sensitive and 16 and I would think that those would be I mean, again, I'm not a breeder, so I don't know what their background would be, but there's definitely differences there in terms of sensitivity.

**[21:09] Kyle Briscoe**

Yes, sir. That so the other variety that we had listed this year would be Diamond on there. That was shown a little bit more sensitive. And I'll say those conventional varieties in general, I think can be a little bit more sensitive than some of your hybrids.

**[21:31] Jason Norsworthy**

Yeah, I would we agree with you on that. And so with that, you know, you know, we looked at it pre-emergence, we've looked at it three leaf application two in these varieties tolerances. And you know, I was telling you the other day we've got plots this year where last year I would have swore that we had greater injury pre-emergence than we did with post-emergence applications. I think we have some sites this year would probably have slightly more post-emergence than we do with pre-emerge. So I hadn't quite figured that out. But one thing is for certain, you have very little injury to rice until you put the water on it and then when you put the water on it, that is really when you're going to start seeing the activity with Brake. And I guess what I would tell folks, Kyle, is if you get in a situation where that rice is beginning to turn white, the label, my understanding the label does allow for flooded applications. If you were to place it on rice and it were to begin to turn white, you're going to have to get the water off of it. Would you agree with that?

**[22:38] Kyle Briscoe**

I would agree. I mean, that that is the recommendation. You know, when people ask that question, it's, hey, keep as much water off it as possible. You know, obviously, you can't control the rain, but you can control irrigation.

**[22:55] Jason Norsworthy**

And I think, you know, it's you're going to have to let the field dry back up and then obviously we're going to rice crop. So we're going to have to bring some water back to it. But I think you're going to want that field to dry up before you bring it back. Now, I'll be the first to tell you we don't have data where we drain the field, let it dry down and then bring water back to it. But just herbicides in general. When we see damage to rice, herbicide injury to rice, in most instances you want to get the water off of it. It's all about stress on stress. A lot of folks think that a flood doesn't necessarily stress rice, but it does stress rice. And so you can compound that having herbicide in that water there together. So that's definitely a recommendation that we would that we would make. You know, when I think about brake, I come back to Sonar, which I think is one of the world's most widely used aquatic herbicides and I've had very good luck in the trials where I've used it at least from a tolerance standpoint and I'll say even from a weed control standpoint. Looking at aquatic weeds, I've had very good crop tolerance with post-flood applications of the herbicide. When I read the label, it basically allows for applications up to 30 days prior to harvest. So if I read it correctly, it would allow for post-flood treatment, is that correct?

**[24:26] Kyle Briscoe**

That is correct. The PHI is 30 days. Ongoing research suggests that post-flood applications and flood irrigated rice not only control the aquatic weeds, but are safer to the rice than what we've seen in some of those pre-flood applications.

**[24:48] Jason Norsworthy**

I would agree with you totally on that if I'm going to grow flooded rice. So today, if I were growing flooded rice and I was going to use Brake, first of all, pig weeds not going to be a problem for me because I'm going to flood and take that pig weed out. I'm really after aquatic weeds. If I'm using Brake. You know, there's some things I think that we're trying to figure out what we can mix with it. It's I'm not going to sit here today and say that Brake is a broad spectrum post flood herbicide. The verdict is still out on what we need to mix with it. But I think there are some tank mixes out there that we can do some good mixing Brake with, some other products in rice to have. Really, I hate to say it, but you know, when

you start getting in, that is really it's more of a salvage. You're looking at controlling aquatic weed, you're in a salvage situation. If I'm out spraying things post-flood I missed, I didn't get things exactly right pre flood in order to get in that post flood application.

**[25:47] Kyle Briscoe**

Yeah, I agree. And as I mentioned, the research is ongoing to see exactly what Brakes going to bring to the table in a post flood scenario. Again, currently there's an area restriction on the label, so we're not there yet. But, but we were assessing if we could be there and you know, what value Brake might bring in that post flood application.

**[26:11] Jason Norsworthy**

So basically there, you know, we're working with with Se PRO, we're doing everything we can to ensure that we have no issue. You put things in an airplane, you just want to make sure that you have good tolerance to everything around you. And I guess that's kind of where we are at this point. Hopefully within the next 12 to 18 months, we can collect the data necessary to have confidence that we can move forward with that post flood application.

**[26:40] Kyle Briscoe**

Yes, sir. That is a priority number one. We discussed that three weeks ago when we were together and how we might do that and the crops that we would look at around the applications. And, and I think that's the direction we want to head.

**[26:56] Jason Norsworthy**

So going now to 2024, based on where we are today, based on the restrictions, the aerial restriction, based on what we know about flood irrigated or flooded rice, not flood irrigated, just flooded rice. Your focus, Brakes focus. The focus for Brake in 2024 again is going to be furrow irrigated rice and there's going to be some precautions around that. But basically we're looking at mixing with Loyant, we're looking mixing possibly with propanil, we're coming in at the three leaf stage trying to provide some more residual. Really, I'm going to call it residual amount and I'm not going to call it call it pre-emergence. Provides some residual to take us further into that crop because when we take a look at furrow irrigated rice, I know in my work it's not uncommon that we've got four applications to try to get us to canopy. If you're lucky, you might get by with three, but a lot of times you've got a fourth application that you may not have in flooded rice.

**[28:02] Kyle Briscoe**

Yes, sir. That is, you know, the recommendation. Again, based on the label, your sandier soils, any loam, 12 ounces of Brake, anything heavier or 16 ounces, of Brake, three leaf stage and older rice. And then again, mix it with something that is going to give you that that burn down if you've got some weeds up and Brake is going to provide the residual certainly for Palmer and other annual grass species as we discussed earlier.

**[28:34] Jason Norsworthy**

Okay is there anything else that I've missed today about Brake that you want to share with our audience?

**[28:42] Kyle Briscoe**

I think that that was a pretty well-rounded conversation on Brake and rice, at least to date, on what we know. Obviously, there's a lot of data to be collected this year, both in furrow irrigated as well as flooded. And so hopefully we can do this again after the data comes in. And we can talk about our plan moving into 2024.

**[29:07] Jason Norsworthy**

Absolutely. And I would like to you know, I think Brake will be part of our program this winter in terms of how it positions in rice once we get all the data in. But we've had some positive results. Like I said thus far, especially on pig weed or Palmer, pig weed control. So I really appreciate you joining us today for this podcast. And I'd like to thank all of our listeners for joining us for this episode of the Weeds AR Wild podcast series on the Arkansas Row Crops Radio.

**[29:41] Intro/Outro**

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