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All right. And I'd like to welcome everyone to the twenty twenty one Arkansas rice production meeting online.

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My name is Jarod Hartke and I'm the rice extension agronomist with the University of Arkansas System Division of Agriculture.

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Thanks for joining us today as we take rice production meetings virtual in twenty twenty one.

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We've got a great program lined up for you. It's really nice to see a lot of familiar names in the attendees list, certainly.

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I would rather be seeing all of you in-person and speak for the other other panelists and speakers here today on that as well.

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Before we get started, I would like to mention that today's program counts as three CEUs for certified crop advisors in Arkansas,

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Agricultural consultants. Please remember that to receive full credit, you do have to stay and participate for the majority of the meeting.

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At the completion of the program, we will submit to see use for all attendees who submitted their license numbers.

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Please send an email to Rice at U.A.E X, not you.

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00:04:22,000 --> 00:04:29,000

If you have any questions on that, I'd like to welcome those of you that have attended our our in-person production meetings in the past.

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Thanks for working with us in this format as well as the old one.

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And for those who are new to our production meetings, we hope this event is both informative and helpful.

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Wish we could have our meetings in different counties and get to see everyone face to face.

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But this online meeting is going to be the next best thing. We've worked hard to make it valuable for you.

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We'll get six presentations to share today,

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going over updates from our extension specialists and after each presentation will entertain a question or two if there are any.

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But once all the presentations are over, we'll have roughly a 30 minute question and answer session to go over all of the ones that we receive.

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And with that, I'd like to introduce our first speaker who needs no introduction because I've already introduced myself.

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00:05:14,000 --> 00:05:21,000

So here's our first presentation. Thank you. Hello, everyone.

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00:05:21,000 --> 00:05:26,000

I'm Jarrod Harkde, rice extension agronomist for the University of Arkansas System Division of Agriculture.

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Welcome to the twenty twenty one virtual rice production meeting.

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I'd like to start off by jumping into a twenty twenty one rice production update for the year.

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So we'll go ahead and dive right in with a very brief discussion of acreage from the previous year.

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We certainly saw a massive jump compared to twenty nineteen,

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roughly a twenty five percent acreage increase in 2020 over the previous year, certainly twenty nineteen.

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All of the rainfall that year, combined with other problems,

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saw a major drop from twenty eighteen that repeated rainfall, a lot of preventing planting in twenty nineteen.

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We still had a decent amount, pretty large amount of preventive planning in 2020, but we were able to persevere,

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push forward and actually still get quite a bit of rice in the ground in 2020 where it goes in twenty one.

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Probably a modest decline at this point. That could be one point three million acres, maybe more, maybe a little less.

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A little too early to say whether it's going to fall all the way back to twenty, seventeen, twenty, nineteen levels.

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But obviously soybean and corn prices have been increasing considerably of late.

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So a lot going on there. But with all the preventive planet acreage out there,

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there's still acres to be grabbed that if we're given the opportunity in the spring, there can still be quite a bit of rice planted.

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But the general expectation is certainly for decline overall yield for the year, right in line with the previous three years.

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That really goes right with a lot of the comments that I heard throughout the harvest season.

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A lot of ups and downs from field to field in terms of performance, just kind of all over the board.

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But when the dust settled, most were largely right in line with their three to five year average on production.

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So not a big shock there on the yield. Thought it would trend just a little bit lower than this.

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But again, never looked like it was going to be too far off or what we've been doing for the previous few years.

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What did we grow usually? And always interesting topic for most.

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Gemini two-14, Clearfield was the most widely planted in twenty twenty, followed by XP seven fifty three and then the new full page average.

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Seventy five, twenty one. Those were in there. Another couple of the new hybrids will hop to seventy three, one and seventy three.

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Twenty one jumping in there quite a bit. Diamond conventional long grain in there.

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10 percent medium grain. We definitely didn't plant near as much of is what we anticipated.

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Kind of a little surprised at the drop there.

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But Jupiter and Titan combined about seven to eight percent and that's a little bit down far we typically are.

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So that was surprising. Sailing on fifteen, a nuclear field.

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CLL15 with a pretty good jump there, then PBL, a one and oh two, roughly two and a half percent.

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Some other Clearfield varieties in there as well.

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A few comments you can see real real quickly the kind of my personal list of recommended rice cultivars for twenty twenty one that's based

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again on me going through data and having a look and trying to make the best recommendation possible overall for what's out there.

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I usually get questions kind of framed the way that I've put this table together.

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That's kind of the basis for it by the get a given group such as the conventional varieties,

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which which variety should grow so damn and still appears to be on top.

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But ProGold one looks very, very close to it in their behind or jewel and pro go to that.

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Both seem to have a little bit better disease packages maybe than Diamond and Pro go one, but maybe not quite the topping yield potential.

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But they may have a higher floor to be more stable across locations.

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So we're going to see some of those on on some acreage really for the first time in twenty one.

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So we'll certainly get a better feel for that.

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Then one of interest in looking at the data that will on moment is d.g two sixty three L, which is a new conventional long grain variety which,

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which looks like it could very easily in the in the very immediate future jump possibly to the top of this list,

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but still some limited testing from our standpoint so far, but definitely belongs on the list.

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We'll see where it goes from here. Conventional hybrid, seven fifty three still at the top.

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Seventy five, a one and seventy three or one. Very competitive. And there are some other new ones on the way as well.

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Clearfield variety (?) Fifteen, sixteen and seventeen there.

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There's some differences to be made.

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There could probably argue sixteen belongs on top but really haven't seen it on, on any acreage outside of seed production fields and testing yet.

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So maybe I should slide it up there. Full page hybrids.

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Seventy five. Twenty one. Seventy three. Twenty one. Very competitive with one another seventy five.

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Twenty one gets a little nod for milling.

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Really what that boils down to in my opinion is right now they're really only the PVL 002 on the (?) side for twenty one.

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So we'll be looking at that one again.

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Medium grain side, Lynx, it's new, but i consistently showing an advantage over Titan and Jupiter, but it does not have full market approval.

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The same is true of CLM Oh four, but it's competitive and certainly only Clearfield medium grain to offer at the moment.

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So just touching on some of the data behind what's going on there.

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I mentioned the past few years the Arman's all right.

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Performance trials, when we look at it in that CL, 16 does stand out about five bushels ahead of CL.

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Fifteen CL, 17, again, it's at one ninety five, it's behind.

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But if you just look at the twenty twenty where we've had it in testing, it's, it's close.

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So it's right in there. P-value to, you know, a little bit behind those.

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But again has the added advantage of the different herbicide package on the medium grain side.

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A lot of competitiveness among the for the one Clearfield medium grain and then the three conventionally that are out there now,

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but with links having the advantage and in some cases a large advantage and uncertain time.

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So that one's gonna be one to watch. But Jupiter probably still going to continue to lead the way for the next year.

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We'll see. But possibly Titan gain some more ground as well.

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On the conventional long grain side, the DG 263 L.

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The one I mentioned before, showing some outstanding yields in the limited testing that we've been able to do with it.

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But we're we're gonna get a I think, a decent first year look at it on production acres in twenty one and see where we go.

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But beyond that, Diamond and Brogo going again, very similar in yield across a three year, a lot of site average.

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And the same is true for Jewel and pro. Go to lagging a little bit behind that disease package is better say look pretty stable at due to that.

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So we'll see where we go on the hybrid side.

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Looking in right here, the two full page a little bit behind seventy three one seventy five or one and seven fifty three but still very close.

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And so you kind of have the you know all of them grouped together by what your needs are really performing very similarly.

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So there's some location differences, but on average they're very, very similar and some tradeoffs.

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I mentioned the milling of seventy five. Twenty one being a little better than seventy three.

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Twenty one but seventy five. Twenty is a few days later and has a little more lodging potential.

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So again making a decision based on your overall farm needs.

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Looking at the Arkansas commercial Rasht rial's the S.R. Ts just in 2020.

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A lot going on here across a lot of locations.

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I'll kind of draw your your attention to the main column on the far right hand side in any any number that's that's colored in green there please.

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Looks green on your, on your screen. Lot like these here either, either it was the high shield or that location was within a few bushels of the hash.

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You're within a given group, you're like the clear fields in previous PSU ccl l 16 for instance,

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when a lot of sides and certainly carry the average with CL fifteen, not too far behind.

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But you know,

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and definitely the right on about half the sites of sixteen looking like it's leading more there in seventeen really mainly behind (?).

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Few sites where it did lodge.

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But I do think we can back off the nitrogen on that variety and help with that is we had a barn and tested a little bit more (?)\_

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Sixty three 3L again carrying with the large average (?) against still binded the two sixty

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three but still leading the way for the rest of the conventional varieties at this point.

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Well with pro go one staying pretty close to the diamond, still kind of the lead across the total number of sites,

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the two full page hybrids continue to swap back and forth across locations.

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You see the with and without the green highlight just back, back and forth the whole way across.

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So, you know, we've really tested one more side. They'd be equal, but a little bit of lodging for seventy five.

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Twenty one at a side or two, really probably what drug mountain and being virtually the same.

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And then on the conventional hybrid side, you see again what we're discussing about a lot of similarity between them.

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But the new ones. Seventy four or one which are probably more available next year and twenty two.

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It was also in the mix on on a pretty good number of sites,

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along with seven fifty three and seventy five a one and then seventy three or one is still right in there, very, very close with them.

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So a lot of competitive offerings there as well. Medium grain side, same story.

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Links and Titan kind of carry the overall yield across all the sites with SEAL in MO four in Jupiter,

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not very far behind but it wasn't as good of a year for Jupiter.

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It didn't appear like in 2020. And Celian, Mo.

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For being, as we've kind of seen, to be competitive and yodeling with the top Yoder's roughly half the time and typically not lagging very far behind.

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But that's staying pretty competitive. But Links and Titan. Links a little bit later maturing like Jupiter and Titan being very early,

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that that may be the shift going forward from overall yield potential and production planning data to make just a few brief comments.

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Typically, like in twenty eighteen, you see the earliest planning dates late March and early April and all the way through mid April and 19.

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That's typically our highest yielding planning dates in 2020. That wasn't true.

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Excessively more March, followed by a very cold month of April,

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led to some lower yields with the earliest planning dates and then the mid April to early May actually were highest in 2020,

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which actually buried out in the field with a lot of growers, but threw a lot of people off on their usual expected performance.

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But again, we can definitely blame some environmental conditions for that, just as we can in 18 with this particular window here with that.

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That early May massive drop off and then a rebound. Those things do happen.

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Same is true at Pine Tree, but it's been going on for a while that the really mid April through the early part of May is the optimal window to plant.

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Typically the highest yields. Unfortunately, in 2020, we didn't even get to plant the earlier planning dates due to excessive rainfall.

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Got just dropped off the plane on the 21st and then it rained on the 22nd. In a way, we went.

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Some saving right decisions, always a frequent topic of discussion for me, just as a general basis for varieties,

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we generally have a starting point on loam soils of 30 seed per square foot, that SS F or thirty six seed per square foot on clay.

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And these rates are in pounds per acre. So, you know,

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always keep in mind there can be quite a bit of variation from variety to variety in how many pounds you actually need to achieve those seeding rates.

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Sixty nine for Diamond. Seventy for Jupiter. Seventy nine for Lynx

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Those are some big differences. Now, some of those are long grain, some of medium grain.

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But keeping in mind to get similar seeding rights, you're gonna have to to watch inject that drill calibration.

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The same is still true on the hybrids, except we're looking for round 10 seed per square foot on alone or twelve on a clay.

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But you still see even within the average with a little bit of difference in seed size,

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anywhere from twenty one to twenty four pounds per acre of seed take to get to actually the similar number of seed being planted.

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So again, always important to check your actual seed count, seed per pound of whatever you're planting so we can kind of get that down in.

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Using diamond, they just as an example, you see 10, 20, 30, 40 and 50 per square foot across a lot of trials.

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These are from twenty, seventeen and eighteen in this situation.

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But you see, the only thing in bull has a significant drop off from the highest yielding seeding.

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Right. And so you see a trend toward direr seeding rights to give you the highest yield.

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00:18:08,000 --> 00:18:14,000

Not a shock. Most of the time, you know, even 20 seed per square foot looks pretty good.

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But to get toward the highest yields, it's 30 and above through most of these.

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That's for grain yield. But if you spin it to net return, suddenly we see that again.

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Everything else is standardized except having more, you know, applying the seed.

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Golf's making it deviate. Everything else the same. You say again, the lower seeding rates actually bring a higher net return.

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Anything above here, the 10 seed per square foot, they're all pretty similar.

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The same again with a slight trend up, maybe a little trend up.

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A lot of variability at that site. But the staying off of that lowest.

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So getting in that 30 seed per square foot range, you may not need to push much higher very often, again, just from the potential of a net return.

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Have Rio reducing the seeding right much at all brings in that risk.

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You can't just magically put seed back if anything goes wrong, whether it's birds or planting into poor conditions.

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00:19:12,000 --> 00:19:16,000

So return on investment is very important when considering seeding.

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00:19:16,000 --> 00:19:18,000

Right. You can see in that down was just an example.

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I can do a lot of varieties up there to be further examples that continue to show a similar story.

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It may nudge Nogent and your opinion of their seeding, right?

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00:19:26,000 --> 00:19:32,000

Slightly one way or another, but a lot of times it is diminishing returns, pushing those rates up really high.

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And again, keep in mind, all those seeding right studies have full back you'd see treatments on.

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So that's an insecticide plus fungicide package to protect from seedling disease as well as Ryze water.

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We will write claspers. So we're protecting what we're already putting out there in the first place.

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But at any rate, 30 seed per square foot, an ideal target for most varieties.

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That's about 70 pounds an acre for some varieties, but maybe as much as 80 hybrid's.

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We want to be. They are different, but 10 seed per square foot is an ideal target.

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That's twenty two pounds for some, maybe as much as four.

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00:20:10,000 --> 00:20:14,000

We can cheat maybe a little lower. Conditions are ideal, perfect and a good forecast.

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00:20:14,000 --> 00:20:21,000

Everything's going well. But the more your your questions increase about the conditions you're planning into,

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the more we need to consider nudging the rate up to offset some issues.

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Again, see the social contact, stuff like that.

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But at the end of the day, watching out for how much more we're spending to put more and more seed out there versus the return.

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And that's not even getting into the topic of getting overly thick and what that's going to do for

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00:20:40,000 --> 00:20:46,000

for disease and lodging issues that are there bound to come into play once we push it too far.

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A few quick comments on harvest dates and this this one is just an example from 2018 on XP 753.

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We started at a pretty high moisture range. Twenty five down to twenty three, twenty to twenty and fifteen.

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And unfortunately, got a little shift here in the dates.

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00:21:03,000 --> 00:21:10,000

But you've got harvested three days after application or seven, and most of these are a three and a seven,

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00:21:10,000 --> 00:21:15,000

but you get three and then a 10 day gap and a six day and a 10 day gap.

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00:21:15,000 --> 00:21:17,000

And then a three and a six day.

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00:21:17,000 --> 00:21:25,000

And most of what you'll see here from a grain yield standpoint, your biggest issues come when you wait too long to harvest after application.

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00:21:25,000 --> 00:21:32,000

It's usually there that you're seeing the biggest drop score system happen to be already be six days before we could get into it cut due to rainfall.

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00:21:32,000 --> 00:21:38,000

That's when you see those issues from a head. We are assuming grain yield in twenty nineteen.

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00:21:38,000 --> 00:21:43,000

We tried to focus on some lower moistures and really didn't, but got rid of the timing.

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00:21:43,000 --> 00:21:47,000

So all these were harvested in three days and you really don't see much issue. This one.

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You can see the moisture kind of got down there and hung up due to weather. Nineteen big surprise and actually treated harvest in three days.

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Threshed a lot better because all the moisture we couldn't get rid of at that time and so it didn't see much issues.

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Had Rice yield.

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Same story when we when we waited really beyond just a few handful of days, that that's when had Rice really, really started to fall off.

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You saw the biggest gaps there, but it wasn't always that dramatic course.

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We got, again, a large and there was loud sit out there for too long.

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Twenty, nineteen. Looked at lower moisture's. All of them harvested in three days.

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And you see them all stay very, very close, whether they're treated or not. Even when we got down to very, very low moisture.

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So just something to keep in mind. There's a lot more in play there.

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But our goal is to harvest in five days or less after application. Get me on that.

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And there's the very real potential for some loss of grain yield, some levels of head ratio.

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Not everybody has that happen. But there's your greatest risk based on this data and some other not shown hybrids probably need to lean a little

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bit lower toward twenty three percent moisture before we start considering making applications varieties.

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We can probably still stick with the older recommendations of starting around twenty five percent.

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The bottom end of the range is less certain. We've traditionally said stop spraying salt or sodium chloride around 18 percent.

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The data looks like we can probably go lower than that. But keep in mind, when you start getting below 18 percent grain moisture,

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your head rice yields are going to naturally decline any way, kind of, no matter what you do.

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So adding Harvest Day, you're just going to have that risk of over drying and just bringing them down in general.

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So let's not apply too early and try to get it out very rapidly after we make that application.

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A few quick keys to success, obviously getting paying K out of forty five sixty oh forty five ninety covers a lot of

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acres in our rice production area and don't skimp on the zinc plant whenever you can,

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but try to finish the fields a harp on this every year and still get questioned.

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00:23:59,000 --> 00:24:07,000

We can certainly plant just about faster than we can do anything but planting what we can keep up with in terms of getting levees up.

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And that's kind of what I mean by the field, you know, finished actually getting drains in levees up.

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I don't want to be butter and everything, but at least kind of we're we're we're done and we can get herbicides out and things ready,

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planting the amount of seed we need to hit some minimum plants than, say, ten plants per square foot for varieties or five for hybrids.

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What do you have to do to achieve that combination of field conditions and obviously seeding.

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Right, herbicides. Free after, free after free.

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I like to consider gradually increasing reflood nitrogen rights.

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It didn't mean anything drastic. That's where most of our yield comes from.

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Is that prete blood? Nitrogen. Even when we're making other applications later.

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So. And what I'm saying gradually, five to 10 pounds urea a year.

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If you're not seeing any disease problems in any lodging problems, you can probably stand to push that.

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That you rewrite just a little bit.

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And I'll say at the first sign of anything beginning to look negative at all, back at all five or 10 and say you're good.

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And don't make it worse. Getting to flood. We have a pretty big window.

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There's the optimal window. And then there's that final date to apply nitrogen.

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You're looking at the data 50 program. You got a few weeks there. You can go early if conditions are great.

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Rice is growing well.

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But try to make that happen by the end of the window and get that rice flooded so that we don't leave yield on the table by waiting too long.

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Rice advisor, WAAX Doddy to you. Great.

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On computers and mobile devices, whatever you need, you can see all the different apps here from accessing the 50 program,

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Risk calculator, fertilizer, calculators, all that stuff, rice and advice videos, all those things to kind of help you on your way.

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Again, great acts like an apps Internet native with acts like an app.

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Here's all my contact information. Cell phone number or Twitter. Email.

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All that good stuff. Useful websites.

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Hopefully that you can jump into if you'd like to sign up for the Arkansas Rice Updates newsletter that's sent out weekly.

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During the growing season, send an email there.

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And if you want to receive text message reminders either about which may include the UPDATES newsletter as well as other things,

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text the word rice to the number six nine nine two two.

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Huge thanks to my crew who that absolutely none of this is possible without depend on them for for everything.

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00:26:32,000 --> 00:26:37,000

Can't can't thank them enough. Also can't thank enough the Arkansas Rice check off,

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00:26:37,000 --> 00:26:43,000

which comes directly from Arkansas rice growers administered by the Arkansas Rice Research and Promotion Board.

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And that's gonna go for the majority presentations you're going to see here today as well.

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Half myself and everyone else and the University of Arkansas system Division of Agriculture.

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Thank you for joining us today. And I hope you have a great year.

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And I'd like to remind everyone to use the question and answer box to submit

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any questions you have about the research that you're hearing about today.

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And after the presentations conclude, our presenters will be on hand to answer your questions.

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I do at least one question. Dancer live here for her, the one that actually a second version of the same question just came in.

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What is the seating rate for the new DG two sixty three L that that new long grain variety for nutrition.

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And my answer there is I believe it might be able to lean lower than than our standard 30 seat per square foot.

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I will say that may be because the limited data that we were able to get in twenty twenty.

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Really the two sitting right sites, we had both had some problems. It still did excellent yields at pretty low plant standards.

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So it was due to standing water magin that that lowered them.

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But for the time being, probably want to stick very close to that 30 seed per square foot if you were to try to reduce it.

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I would only do so very slightly. And again, under very ideal conditions on that so plant and very early, possibly questionable.

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I'm absolutely going to stay with our standard. Right.

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But with a little further work and some more usable sites, hopefully we can move right on through there with that.

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One more question I'll go ahead and jump to before moving on to the next presentation has to do with the milling yields,

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why they may have been so much better this year. And really, my thoughts on that had to do with what was seemingly an overall mild fall,

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even though we were planted later, really, it was very mild conditions.

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We didn't have a lot of excessive heat or necessarily real excessive moisture and had some pretty good harvest windows throughout that time.

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So that's really going to be a huge driver with minimizing those wedding and drying cycles as that is.

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That grain naturally dries in the field. That's a huge factor.

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The massive wetting and drying event. So very short version of some of what was going on there with the milling.

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So with that, next up is Dr. Tommy Butz, extension weed scientist that the long extension center.

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And he'll give an update on rice weed control.

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Hello, my name is Tommy Extension, lead scientist with the University of Arkansas System Vision of Agriculture.

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And thank you for joining me today for the right portion of the 20 21 virtual meeting for Arkansas.

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Now, the first thing that I want to jump in to and talk about was herbicide resistance and provide an update for across the state.

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Now, I'm going to hit on a little bit of results from a survey we conducted this fall to help highlight presentations,

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some different things that we're discussing. But then also I'll get into some screening results from Dr. North, where the screening program.

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So right off the bat from the survey results, one of the questions we asked was do are producers,

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consultants, et cetera, suspect that they have herbicide resistant weeds excluding burning grass.

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So other problem. Do they suspect that they have herbicide resistance in their rice fields?

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And with a resounding yes, we had.

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Eighty four percent of the respondents say that they suspected other weeds being herbicide resistant in the rice fields.

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When we asked specifically about boring our grass if they were side resistance, once again, a whole lot of yes votes came in and it was actually.

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Eighty six percent of our respondents said they cite resistant barnyard grass in their rice fields.

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So, again, very problematic weeds there. When we talk about some of those other weeds that were mentioned as far as resistance,

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it included things like Rice Flat Sege, which is commonly found resistance across the state.

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We typically expect 90 to 95 percent of our populations are a less resistant.

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There is also wheat, rice mentioned palmar, amaranth, smart weeds, strangled,

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all kinds of different options that were presented from those other weeds.

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Now, as far as barnyard drip, these are the latest results from Dr. Nord Stream program for the past three years.

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So 2017 through 2019, they're currently testing all the 20, 20 samples right now in the greenhouse.

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But for the past three years, you can see how widespread resistance is across the state for proppant.

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El Fassett New Path Preface. And as well, low point.

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We have widespread resistance across the state. Confirmed for those for RACC ACE inhibitors is a little bit better news.

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It's less widespread. So that's things like clincher Provisia

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We do have quite a bit of resistance still, but there's less of it out there than these other four.

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And maybe the best news I can take the optimist approach is that there's we haven't had command resistance as these other ones either.

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We've only confirmed it so far in these three counties.

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So that's great news in the aspect that hopefully it's not so real widespread and we still have the use of command for the majority of the state.

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Now, it's not good that we have confirmed resistance, but at least if it's not widespread,

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hopefully we can slow this spread and protect command by using other residuals, overlapping them.

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Tain't mixing them, all those kinds of things,

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and make sure that we save this for the majority of the state because that's a real important herbicide for us.

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So, again, be aware of all of this widespread herbicide resistance.

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And, you know, in a lot of these cases, I'm just illustrating that we had at least one population test positive.

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We also had several populations that were brought in that tested positive or confirmed resistant to five modes of action, all in that one population.

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So that's real dangerous when we start having that many resistances stacked on top of each other for trying to successfully manage it in rice.

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The next thing I wanted to discuss was the full page system in hybrids.

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The number one thing I want to get across with this system is that the weed control is exactly the same as the Clearfield system.

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If you've been growing Clearfield and you've been in the Clearfield system, full page does not change or we control part of this.

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It is the exact same. And so what I'm getting at with that is if you're Barnyardgrass or you're weedy rice is already resistant to new path.

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Full page is not going to help because it's also resistant to preface. There's the exact same herbicides.

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And so the full page is not helping us on the weed control aspect.

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If you've been in a Clearfield system and you have resistance already to Clearfield system,

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what full page does help us with is these hybrids have a much greater tolerance to a less inhibiters than their Clearfield hybrid counterparts did.

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And so especially in the past couple of years, where it's been a little cool and wet,

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we've seen a lot of Alars injury flash up this yellowing, corrosive stunting happen out there in those fields.

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Full page hybrids can really help us out a lot by mitigating some of that risk because they just have a greater tolerance.

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You won't see this injury in that system, as you would with some of those Clearfield hybrids.

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Now, this also, you know,

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similar the (?) injury has popped up a lot in the past couple of years because we've been tape mixing and giving some heavy loads,

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Vls (?) Chemistries like a regiment permit, tank mix. And that overload of a less Kemet chemistries has caused some of this injury.

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Full page, again, with this greater tolerance, we should not see that to the extent we've seen with some of our Clearfield systems.

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Now, on the full page system, we need to make sure to use preface and postscript herbicides so they're the same as new path and beyond.

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But due to labeling things, preface and postscript is used in full page, new path and beyond is used in the clear field system.

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The rates are the same also for preface. We want to use six fluid ounces and with postscript, five fluid ounces.

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Next, I wanted to dove into a little bit on Sege control and particular this white margin flat,

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Sege has really started to make itself known more across the state. I've had several calls on it to help us I.D. this specific Flat said.

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I've got a few pictures here. It has some really dark, deep red roots that are very common.

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No, not lots. No rhizomes. But this deep red color is really indicative of white margin, flat edge.

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It also develops this white undersides. The leaf's service keeps a green mid vein.

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So that's very characteristic.

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And then the seed head tends to mean what I like to describe as it's a combination of yellow nutsedge and rice flat sense.

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It's like if you combine those together, that's the seed head you get some other characteristics include no pine needle smell.

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So this is very common to rice flat Sege and gets mistaken for flat Sege a lot rice flat Sege a lot.

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But if you would pick it up and crush it, it doesn't have that smell like rice flat sense does that.

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Doesn't have that strong pine needles smell. Also, this wheat is a slightly later merger, normally from mid to late May.

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And then the base of this plant gets really fleshy and waterlogged, especially later in the season.

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So different several different identification characteristics available there to try and help the idea, this one from the other problematic weeds.

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Now, through some on farm studies and greenhouse studies, we found some best herbicide control methods for this flat Sege.

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And this really almost applies to Rice Flats edge as well.

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But the best pre immersions residual products were Boléro and sharpened by far gave us the best residual control of this.

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From a post emergent standpoint, Barsa Grande is our number one.

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It's given us 100 percent control in the greenhouse. Every time when we sprayed six inch plants.

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So I highly recommend that. It is also very good, though, getting us greater than 90 percent control.

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And if we have small Sege plants out there, we can get away with a lower rate of that eight fluid ounces per acre of land.

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Finally,

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I wanted to mention rice bowl may also be a good option if you have some real bad Sege fields like this between white margined or Rice Flat Sege,

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the property part of Rice Bowl has activity on that flat stage and will give us some pretty good burn down power on those centers,

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especially if they're small. I did only set them back,

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but then we also get the Boléro or Thiamin card part of Rice Bowl that gives us the best residual out there and we'll hopefully stop any more flushes.

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So we get a little bit of both worlds here with rice bowl by having residual, but also some post activity.

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So it may be a good option out there for some growers as well and some really bad Sege situations.

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Now, I've also had calls in some a lot of other oddballs, sedges, as you can see here.

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Unfortunately, there's always minimal to no data available on herbicide options for these.

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So really, our best option is probably to do tank mixes or sequentially is to make sure

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we get successful control if you have one of these in your field by chance.

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Also, mixing, mixing orders sequential of an A-list Nabatieh like permit or gambit and then using Loyn or Baska grand as well.

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It's it's unfortunate, but when we don't know how they're going to react, you know,

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could be more like yellow nutsedge or could be more like rice flat sedge.

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It's going to have to kind of take a combination approach to really manage those oddball unsuccessfully.

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Now, we do have some more resources out there for Sege I.D. as well as control.

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You follow these links or scan these QR codes and access those different publications that we have available.

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So feel free to do that as well. The next thing I want to talk about wasn't an aerial spray volume study that we conducted this

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last summer just south of Jonesboro at the Northeast Rice Research and Extension Center.

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I've had several calls and questions on how these lower spray volumes really act on our weed control author coming out of ag aircraft.

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So we wanted to test this straight using an actual ag aircraft.

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So every you know, the whole setup was what would be commercially acceptable author for these applications.

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Now, the first thing that I'll talk about is coverage here from these water sensitive cards.

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And that acted like we would expect as we went from three to five to seven GPA, we increased our coverage.

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It makes sense. More volume, more coverage. Here's a unique result, though, was our droplet size as we went from three to five to seven.

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We also increased our droplet size as we went across. Now, that is due to the inherent changes we have to make on a plane to get more volume out.

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So what we did in this study, we had to increase our spray pressure and we had to increase our Orfa size by doing those two things.

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Both of those things increased droplet size out of an airplane.

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And so we actually increased our droplet size by just strictly increasing our spray volume.

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They're kind of linked. That's what's a little bit different than a ground rig.

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These two things drop plus size and spray volume are even more linked on a plane than they are on the ground.

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So I want to make note of that, especially when we talk about our next slide. Four, we control results.

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The other interesting thing real quick here is that the number of droplets on each card was statistically the same,

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whether we had three gallons per acre or seven counts breaker. So what I mean by that is even with a lower spray volume,

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we had the same number of droplets hitting this car as we did this card because the droplet size was smaller.

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So even though we had less coverage, we had the not, say, number of droplets actually hitting the target.

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Now, when we look at we control barnyard grass acted like we'd expect as we moved up in volume, we increased our are we control.

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Right. Seven did better than three. But what was unique is when we looked at rice flat, such control, it stayed the same across treatments.

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Three did just as well as seven. And I tie this back to that droplet size effect and how those weeds are structured.

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So Rice Flats stage is a very vertical, narrow leaf type plant. It needs smaller droplets to get good coverage on it and stick to that plant.

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Larger droplets are just going to bounce, shatter or miss the target completely.

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And so even though we had increased spray volume, that increase in droplet size, you know,

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ruined any chance of that increase in volume, actually helping out control of flat Sege.

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In contrast with barnyard grass, it had a wider leaf surface, a little bit taller, a little bit flatter in parts.

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The droplet size increase that we observed in this study didn't impact the retention of droplets on the surface.

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And so then increasing our volume gave us more droplets that could be retained and gave us better control.

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And Barnard grass. So I say all of that to basically come to the conclusion that it's not as cut and

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dry from an egg aircraft on increasing volume is going to increase our control.

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It's just not that cut and dry. There's a lot of other factors that get changed by just strictly trying to increase

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our volume on a plane and thereby subsequently impacting our weak control.

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So, again, said a deal breaker didn't hurt our rice flat such control, it still gave us the same.

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But it's much more inefficient than what three gallons breaker was.

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So if we can start to kind of match our applications with what we'd species we have out there and what herbicides we're using,

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and we're going to be continuing to conduct research on this. That's really where we need to go in the future.

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And I really just wanted to highlight that by constantly preaching a higher spray volume from a plane,

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it doesn't necessarily always hold true that that's going to give us better weed control.

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Next, I wanted to get into some barnyard grass management practices to hopefully help manage that in our rice acres out there.

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One of the questions we asked on our survey was what percent of time do our

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respondents fail to effectively control Barnhardt grass with their first post?

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And we had a range of responses, but our overall average was at 44 percent on time, or almost half of the time.

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We failed to control Barnea grass with our first post herbicide application.

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That's very scary, especially when we look at the next question that we had asked on the survey was if that initial herbicide application fails,

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how many additional applications are required to control it?

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And most respondents said it takes three more applications to successfully control Barnea grass if it escapes that first one.

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That's really, really scary that it takes us that many more applications to it's a success successfully manage it if we miss it with the first one,

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especially when we put costs to it from our survey, the average cost to manage Bohner dress.

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This is just strictly managing, barring our grass was eighty seven dollars and forty five cents an acre.

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That was eighty one percent of the total herbicide costs. So this is just strictly herbicides focused on managing Barnat grass that eat up.

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Eighty one percent of our typical total herbicide costs reported from our response to the survey.

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So I say all of that to basically come to the conclusion that Barnea grass is a big deal.

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It is the Ron Burgundy of weeds and it is driving our producers mad.

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Now, the best thing that I can tell you for Barnow Agrast control tips is residuals, residuals, residuals.

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Get those residuals out of pre mergence and make sure that we're overlapping 14 to 21 days.

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And make sure that we're getting activation in plenty of water,

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because that's going to be key to getting successful control of of your grass season long.

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It's it's it's what's going to take is getting residuals and overlapping them and using those to our advantage.

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Now, I have some pictures down here from some small plot research at the raw research station.

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Like I said, with overlap and you can see here where we had a command followed by Problem Boléro plot.

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And this is going to flood with no post emergence options. It was just strictly command follow by problem Boléro.

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And you can see the excellent control that we've got out of the sequential overlapping of residuals.

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I also wanted to mention that Fassett consistently shows us in small plot research that it's better when we put it as a pre emergence product,

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especially if we're mixing it with command upfront.

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Then if we try and rely on it early post or rely on it as a post emergent product, it gives us better control, PREE and gives us more flexibility.

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Basically buy time because we've got better control upfront and gives us more flexibility for that second application to come in after it.

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So I highly recommend moving Fassett into our pre programs.

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And you can see that picture here with nothing else, only command and Fassett spirit on this plot.

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That's actually pretty good control. The final thing I want to hit on was a tank mix of command, Boléro and League.

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Now, this is a very expensive mix. I understand that. But across two sites and two years now.

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So four site years of this. This has been my best. Tain't mix for weed control out there, including barnow grass.

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And you can see a picture of it down here in the lower right. So it I'm not recommending at full scale across all of your acres,

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but if you've got a field that's problematic or you've got maybe a smaller field, you want to try this on.

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I definitely recommend trying it because although it was really expensive upfront,

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it saved me at least one or two post applications on the back end and ended up being a cheaper overall

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herbicide program just because I got such great residual control of it for that length of time.

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So again, might be something worthwhile to check into on your farm.

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Now, I say all this for residuals because like I mentioned with the survey results and

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from discussions with producers and consultants in the past couple of years, it seems that if if we were ahead of the game, we got residuals out.

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We had no good control all season long.

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If we got behind it all, if we missed that first application barner grass, it took three more to try and control it.

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We normally ended up with fields like this that were just a mess and got overtaken because we couldn't play catch up.

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So using those residuals effectively to our advantage is really critical.

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The next thing, when we start using our post herbicides. Just be aware of this, that we have seen a temperature effect on some of our post herbicides.

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This was a study we conducted this year as well. And basically, I wanted to highlight that when we had a lower temp,

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somewhere around 80 degrees for a daytime high versus a higher temperature, somewhere around 90 degrees for daytime high.

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We saw that we lost control with things like buoyant clincher and regiment pretty significantly just because of that higher temperature.

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Whereas things like grasper beyond, we didn't lose control at all.

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With that higher temperature, we maintain control. Dreama gained a little bit of control.

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So basically what I'm saying with this is when we start getting later in the season, we have those higher temperatures.

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We may need to be a little bit more selective on which herbicides we're using.

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Or maybe on the time of day when we're trying to make these applications and try it and, you know, put them out into our best situations possible,

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because even just a temperature effect, we've noticed, as is,

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that some of our weed control and it may be a cause of why we're getting some of those misses with those post products.

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So just be aware of that. Keep that in the back your mind when you're moving forward through 2021.

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Now, I didn't want to get into some row, right? We management tips as well, this is a little bit different system than flooded rice.

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So the first thing I wanted to mention with managing weeds and real rice is make sure that we have careful water management.

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So you can see in the picture here, we've ran water down the furrows, but not enough to completely Wyk across our bed here.

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We got to make sure that we have enough water to fully saturate our entire bed.

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That's really critical for activating all of those pre mergence residual herbicides,

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as well as making sure that the tops of our beds and those rice plants aren't stressed or any weeds

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that are on top of that rice that aren't stressed and not taking up as much herbicide as they should.

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If we make an application. So water management is critical.

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Also, I just wanted to say watch out for oddball weeds. So we've got a few down here.

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SicklePod, carpeetweed, groundcherry. There's a lot of those that now pop up because we don't have the flood to take them out.

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And so we have to deal with these as well.

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So far, things like Propanil, Grandstand, Loyant and Gambit have been our best options for successfully managing these weeds,

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getting less chemistries and getting the oxygen specifically,

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typically really help us manage a lot of these problematic weeds that we normally don't see and flooded rice system.

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Some other tips, again, residuals are key and the timing of those apps are crucial.

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So some of Dr. Barber’s research has shown that 14 day interval for overlapping residuals is absolutely critical and real.

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Right. If we wait to 21 days. It's too late at that point in real rice.

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So 14 days becomes very critical for our overlapping residuals,

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sharpens necessary for palmar control and for managing other Palmer plant post emergence.

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We want to have sequential applications of Loyant at eight fluid ounces.

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Don't do sequentially of 16. You could end up with some injury on hybrids, but sequentially of eight fluid ounces can be very beneficial.

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And then using Grandstanded Popenoe, followed by Loyant, is also a good option.

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And if you want more info on RHOA Rice weed management, you can scan these QR codes or go into these links.

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We have a couple different videos out there of Rowe Rice Management recommendations.

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So finally, I wanted to hit on kind of my last topic was a takeaway for recommendations for twenty twenty one weed control.

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If you can remember sports, you can remember our tips for weed control.

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And so what I mean by that is we want to start clean. We want to use pre mergence herbicides, overlap residuals required.

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are IWM tactics. So things like, you know, pinpoint flood management, seed prevention, tillage, those kinds of things.

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OK. We need to use all of those aspects to their required timely.

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And then we want to select multiple effective mode of action, post herbicides that are, you know, designed to match our emerge weeds.

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So if we can remember sports and we can remember these things. That's what's going to give us our season long.

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We control for twenty twenty one in rice. So remember sports.

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And remember these things. And that'll help you out along a lot along the way.

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Now the tie in my sports mnemonic device there, I've got this video. I always got work in my Arkansas football reference.

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And this is to demonstrate the power of integrated weed management and why those are a required part of our strategies.

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If we get all of these things working together, mechanical, chemical, cultural prevention,

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it's like our D linemen and linebackers smashing that line and shutting down the

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running back or weeds right at the at that first right at the line of scrimmage.

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Excuse me. If we can shut down those weeds right there and not let them get that first down,

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we're going to be have a really successful twenty, twenty one season.

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I'll finally just some other things common coming down the road, I'm not going to hit on these very closely,

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but we have Rogue coming down, Quizalofop-resistant cultivar and hybrid from RiceTech,

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We're doing research with fertilizer, impregnated with Loyant and then also FMC’s, new mode of action.

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But that's still a little ways down the road as well.

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So here's a few other things coming down the road and I'm not going to hit on them any more than that.

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I'm kind of running out of time. But if you have any questions about these, feel free to ask from there.

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As always, we have a lot of other information available. Please pick up your MP 44 for a local county office and visit our Web site.

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If you have any questions, we constantly updating that with new information, have plenty of thank thank yous to say.

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But I really just want to thank. I really want to thank the Arkansas Rice Research and Promotion Board and the

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checkoff dollars that go to support a lot of our research and extension activities.

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Without it, we wouldn't be able to do what we do. So it's greatly appreciated. With that, I thank you for watching.

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And if you have any questions for me, please get a hold of me at any of the contact info that's showing up on your screen or visit our Web site or

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stay tuned for the live question and answer period here and feel free to ask me any questions you might have.

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So thanks for watching and good luck out there for twenty, twenty one. All right.

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Thank you, Dr. Butts. We do have a question or two that I would like to throw your way live really quick.

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The first question is, do you think we go to flood too quickly behind a pre flood post application?

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Any herbicide, such as turning the whale on as soon as the plane leaves the field or or give it a day?

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Well, thanks, Jared, and thanks, everybody, for joining the meeting today.

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So that's a great question. Unfortunately, there's not a good answer because I think it kind of depends a lot on our one, the field set up.

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You know, if we had a lot of levees in the field, if it's a straight levee,

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if it's a zero grade, I think that changes, you know, how fast going to flood can affect it.

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Also, the different herbicides, I think, will affect, you know, certain ones require that moisture faster than other ones.

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So I think that's also a challenge with answering that question. What I would say generally is, you know, if we.

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If we can't get water across it, you know, within a day,

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we typically probably want to turn that water on as soon as we possibly can to get moisture across the field and make sure a lot of those herbicides,

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but those weeds are actively growing to make those herbicides work their best.

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If weeds aren't actively growing and it's dry conditions out there, those herbicides are not going to be as effective.

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Now, if we're in a zero grade field and we can get water across it pretty fast, it may be worth waiting, you know, at least a few hours,

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kind of let herbicide get onto the weeds, start absorbing that kind of thing, for we may get water on top of them and wash some of that off.

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So there's a lot of give and take there. But that those would be kind of my general recommendations, I guess, as far as putting that flood on.

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OK, we've had quite a few come in. I'm going to show you one more four right now and we'll hold some of the rest of the end.

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So if you have resistance to Fassett and New Path, if you use them as a pre, will they give you activity that way?

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So that's another good question. So whenever we do a lot of our resistance testing screenings, it's all post activity is what we're screening.

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Now, if you have resistance post, we generally say you also have resistance pre.

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But that doesn't mean that they're zeros. So if we apply something, let's say you have Fassett or new path resistance and you apply it pre,

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you're probably still going to get some control out of it. But we're talking, you know, maybe 50 percent or so.

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So you'll get something out of it. But it's still not recommended when we could try and hopefully move to other options like the command,

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the prowl, the belayer, all those types of things.

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So, again, if you have that resistance post, you probably have it pre and you might get some control,

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but it's just not your best option at that point. All right.

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Thank you, Doctor. But again, that those of you that have continued to submit questions.

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We're going to come back to those. But keep things moving along and cover all of our topics today.

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We're going to change gears a little bit.

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Dr. Nick Bateman, our extension entomologist, and he's next with some recommendations for insect control in Rice.

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Hey Everybody, this Nick Bateman entomologist at

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Stuttgart, we'll talk about some of our updates on our insect pest management in our rice, both irrigated and flooded

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you know, and a lot of our areas. So about 60 percent of our rice growing region up and down

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that White River and all of our soils down in Ashley County

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You can see some of that damage in the background. We call that the “Bean Row Effect.”

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And what it is that's we're late in the season in the soybean crop.

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The grape colaspis adults they mate, and that female lays a couple clutches tof eggs down there at the base of the plant and those larvae

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hatch out and move down to the into the soil profile so that these larvae don't move laterally.

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They only move up and down. And so they sit there all winter and they wait.

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And once we plant at rice crop they move back up that spring and they start feeding on those well, at root system eventually lead to death there.

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And you can see where or that rice has thinned outwards.

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The end out is actually where the old bean arose, were where the grass is still standin’ and that that's actually the water for us.

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So that's what I was getting at about I don't move left and right. Just up and down.

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You see a picture down there, you know that that larvae. Does it look like it could cause that much damage?

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That much damage, but it can cause substantial stand loss, lead, you know,

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death to the plants stands, but it doesn't always end up looking like that that bean row effect.

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You know, here we see these standout out spots and typically, you know,

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we get a lot of precision graded and fields out there that are that are fairly leveled.

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There’s typically usually a ridge left out there somewhere, even if it's just a slight incline there.

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And that's what you're seeing here. Those those larvae or those adults, they target those higher areas.

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It you can see that that thinning happened out here in this stand.

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And what's that what that's going to lead to in most cases is higher populations.

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00:56:41,000 --> 00:56:47,000

Of rice water weevils this this is the number one pest across in the mid-South.

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00:56:47,000 --> 00:56:54,000

Number one insect pest. And you can see that that adult up there in the top left hand corner, it's going to cause of scarring or that scar.

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And you see there leave. That's all superficial. We don't see any yield lost from that scarring.

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00:57:01,000 --> 00:57:08,000

But if you notice down there in that bottom picture where you had that really thin stand and that that really bad eat up root mass there,

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00:57:08,000 --> 00:57:11,000

that's where the yield losses going to come in.

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00:57:11,000 --> 00:57:17,000

So those adults, whenever they lay eggs once again, larvae is going to move down to that root system, is going to feed within those roots.

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00:57:17,000 --> 00:57:22,000

And that's what's going to call her real loss.

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00:57:22,000 --> 00:57:26,000

You know, for both of these past, we really don't have many control options other than seed treatments.

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00:57:26,000 --> 00:57:32,000

We can go after Ross Moore. We will adult with a foliar and we can get some decent controller.

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00:57:32,000 --> 00:57:38,000

But for the most part, our best option is, is with insecticide seed treatments.

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00:57:38,000 --> 00:57:41,000

And when it comes to great, which is our only option.

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00:57:41,000 --> 00:57:49,000

So, you know, the four seed treatment options from insects standpoint we have in rice is Cruiser, Nipsit, Dermacro and Fortenza

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So Cruiser and Nipsit, they’re both neonics, they work great on grape colaspsis and they can be good on rice water weevils.

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Well one of the issues we see with both of those products though is they're only going to last twenty eight, thirty five days.

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So we're planting in early April, late March, in early April.

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You know, a lot of times we're not getting flood to forty five, five days after plan.

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00:58:11,000 --> 00:58:16,000

At that point, both of those products are pretty much run out of gas,

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00:58:16,000 --> 00:58:22,000

whereas if you look at products like Dermacor or Fortenza and both of those are diamides, they last for a really long time.

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00:58:22,000 --> 00:58:26,000

They have a lot of residual there. They're great over rice water weevils.

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00:58:26,000 --> 00:58:32,000

But as far as grape colaspsis goes, we don't see any control with Dermacor.

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00:58:32,000 --> 00:58:36,000

It's very, very poor. Fortenza you know, it looks better.

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Dermacor doesn't look quite as good as Cruiser and Nipsit and it does provide some control.

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00:58:41,000 --> 00:58:43,000

Both of those products, though, when it comes to armyworms,

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00:58:43,000 --> 00:58:49,000

And stem borers look pretty good and it looks like they're going to be a good option for billbugs.

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00:58:49,000 --> 00:59:01,000

We'll get into that here and a little bit. So this is a combination of some of the data of all of the data that Gus and I produced over the past.

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00:59:01,000 --> 00:59:04,000

What you can see there from two thousand eight twenty twenty and we combined all of it.

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00:59:04,000 --> 00:59:09,000

Just look at Cruiser, Nipsit, Dermacor were compared to untreated.

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00:59:09,000 --> 00:59:16,000

And if you look at just weevil control there you can see a huge reduction there compared to the untreated for cruiser, Nipsit.

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00:59:16,000 --> 00:59:22,000

They entire record with Dermacor having a slight edge and we see the same thing when it goes to yield.

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00:59:22,000 --> 00:59:25,000

All look better than the untreated. Dermacor has a slight edge.

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Most of that's due to it. It had better control. (?)for weevils same-store with net recharge.

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00:59:32,000 --> 00:59:37,000

No, we get a good net returns over untreated for all of them.

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00:59:37,000 --> 00:59:39,000

Dharmic or once again has a slight edge.

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00:59:39,000 --> 00:59:46,000

You know, we're seeing the same and for tend to they're very similar, similar products just at the time we did.

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00:59:46,000 --> 00:59:51,000

Was this we didn't have enough for 10 today to add into it.

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00:59:51,000 --> 00:59:58,000

So what do we do when we have areas, you know, like I mentioned up and down that the White River region there?

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00:59:58,000 --> 01:00:03,000

What do we do on these the insoles where we're going to have both grape colaspis and water weevil?

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And to put this in perspective on that picture, there were those rice water weevils

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01:00:08,000 --> 01:00:16,000

our threshold's three to four per core, four inch core, and it's three to four larvae per that core.

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01:00:16,000 --> 01:00:20,000

So we're running we're running about five X threshold right here.

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01:00:20,000 --> 01:00:23,000

And that's pretty common to see. So what do we do?

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01:00:23,000 --> 01:00:30,000

We know our neonics run out of gas pretty quick. We know or our diamids aren't great, on grape colaspis.

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01:00:30,000 --> 01:00:40,000

So we've looked at over the past four or five years as combinations of of a neonic or Cruiser, Nipsit in combination with either Dermacor or Fortenza.

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01:00:40,000 --> 01:00:42,000

If you look at the percent control, we're varus water weevils,

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01:00:42,000 --> 01:00:50,000

So this is looking at Cruiser, Nipsit in conjunction with Dermacor or, you know, Cruiser, Nipsit, by itself.

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01:00:50,000 --> 01:00:54,000

We're looking at somewhere between 30 and 40 percent control of Rajeswari away will.

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01:00:54,000 --> 01:00:59,000

We had the Dharmic oriented. We're up in that almost 60 percent.

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01:00:59,000 --> 01:01:02,000

Real similar story here for teens that you know, you look at Cruiser,

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your nipsit by self, you're somewhere between 40 and 55, 60 percent controller.

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01:01:07,000 --> 01:01:14,000

Yeah. That Fortenza a component in there and you're increasing that up to to 85 percent or that higher rate of Cruiser plus fortenza.

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01:01:14,000 --> 01:01:18,000

And to put that in perspective.

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01:01:18,000 --> 01:01:26,000

So this was a trial conducted in twenty seventeen where Gus had massive grape colaspis.

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This pressure there, some of the untreated or thinned out by 50 or 60 percent.

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01:01:31,000 --> 01:01:38,000

And then we were run in somewhere between 50 and 60 grass water waybills per core so that, you know, remember our thresholds is three or four .

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01:01:38,000 --> 01:01:42,000

So we're running extremely high numbers of rice water weevils

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01:01:42,000 --> 01:01:46,000

This was at Pine Tree, which is known for both of these pests.

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01:01:46,000 --> 01:01:51,000

And you can see there that Cruiser Dermacor as a 38 bushel increase over the untreated.

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01:01:51,000 --> 01:01:55,000

Now, this isn't the case everywhere. We don't always see 40 Bushel increase.

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01:01:55,000 --> 01:02:00,000

We encouraged with these products, but it's very common to see somewhere between the tea and A15 Bushel increase.

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01:02:00,000 --> 01:02:07,000

We encourage with one of these combinations over just going with cruiser Nispit alone.

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01:02:07,000 --> 01:02:13,000

So moving on to rice Stinkbugs. We've got a lot of work over the past five or six years.

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Guys had a graduate student working on Threshold's for a while.

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I continued most of that work. And guys, we don't have any reason to change our threshold right now.

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01:02:23,000 --> 01:02:27,000

We're gonna keep our threshold's it at five or astate bug.

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So that's including adults and nips for the first two weeks and then Teahan 14 and the second two weeks.

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And so that first two weeks is gonna protect us against you. So we're talking about the floured and milk time period there.

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That second two weeks is gonna protect this against quality loss and peck, so that’s at soft dough

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And one of the big things we we want to reiterate here, and I know you showed this slide a lot,

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01:02:53,000 --> 01:03:03,000

but termination so we can terminate sprays for stinkbugs once we get to about 60 percent hard dough what we're calling the hard dough a straw color kernel.

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01:03:03,000 --> 01:03:06,000

So once once the majority of our panicle is out there,

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most of the fields at 60 percent hard dough as long as we don't have any bad weather fronts moving in,

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01:03:11,000 --> 01:03:15,000

a lot of rain, a lot of humidity is going to soften those kernels.

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01:03:15,000 --> 01:03:23,000

We can stop spray for stinkbugs without any penalty from a yield loss or pecky grass standpoint.

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01:03:23,000 --> 01:03:30,000

One thing that has popped up past couple years, though, with rice stink bugs is potential problems with lambda.

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So, you know, land has been the go to product for rice stinkbugs for 20 years.

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And, you know, the only other real competition out there that's not a pyrethroid is a Tenchu

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You know, the big thing between Warrior or LAMDA and Tenchu is the price difference

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There you take a one pound generic lambda and you can put it out for roughly a dollar fifty,

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01:03:51,000 --> 01:03:57,000

maybe two dollars on a high end per acre, whereas tenchu is going to be about twelve bucks an acre.

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01:03:57,000 --> 01:04:05,000

And in most cases, for instance, you, you're twenty nineteen. This is Lincoln county, these are twenty five acre blocks spread with airplane.

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01:04:05,000 --> 01:04:07,000

You can see we're running. So this would have been flower and milk.

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01:04:07,000 --> 01:04:18,000

Whenever we spread this the first time we'd run a five x threshold there in our pre spree, in our three day and six day, we're still over threshold.

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01:04:18,000 --> 01:04:22,000

So we returned to the field after that, a clean them up. We didn't have to try to gamble.

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01:04:22,000 --> 01:04:27,000

If you look at both of them products, we can't separate them. They look the same.

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01:04:27,000 --> 01:04:35,000

So you move into twenty and, you know, once again, we're we're in that flour milk stage or on a two X threshold.

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01:04:35,000 --> 01:04:44,000

Once he and twenty five acre block spread with airplane it three days, we're below threshold at six days we're below threshold.

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01:04:44,000 --> 01:04:49,000

At this point we've moved into soft dough. Those are our thresholds. Fifteen and so all the way out.

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01:04:49,000 --> 01:04:55,000

We were still below threshold. We got away one application, but we do start seeing a little bit quicker rebound there.

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01:04:55,000 --> 01:04:59,000

We're starting to see, say, more stinkbugs behind that lambda application.

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01:04:59,000 --> 01:05:04,000

And it seems like Tenchu maybe starting to have a little bit of an edge there.

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01:05:04,000 --> 01:05:11,000

Now, we have we have has reports of some failures and we've run quite a few bio assays over the past couple years.

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01:05:11,000 --> 01:05:17,000

And this this is our location last year in twenty nineteen. So this was up at Weiner in Poinsett County.

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01:05:17,000 --> 01:05:24,000

And in just just so you know what we did, we took Petri dishes and we sprayed them with lambda.

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01:05:24,000 --> 01:05:29,000

We started with warrior too. And so our 1X rate, if you look across the bottom, that one

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01:05:29,000 --> 01:05:37,000

And you're right, that one point eight eight ounces per acre. And then we did it to 1x, four x, at half X- and quarter X- rates.

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01:05:37,000 --> 01:05:43,000

What you see here is, you know, it took a four x rate, 100 percent control of those stinkbugs one eggs.

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01:05:43,000 --> 01:05:47,000

We're only getting about 30 percent in this location last year.

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01:05:47,000 --> 01:05:56,000

And it had been sprayed with LAMDA. When you include this application three times twenty twenty Chicot County, we see a similar story here.

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01:05:56,000 --> 01:06:01,000

The really concerning part though is that even at a four X application we're only

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01:06:01,000 --> 01:06:07,000

getting about 60 percent control and we see a similar similar situation here.

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01:06:07,000 --> 01:06:12,000

Crittenden County. Now, all I want to point out about all three of these locations is this was light season.

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01:06:12,000 --> 01:06:16,000

This was September going into October for all these cases.

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01:06:16,000 --> 01:06:24,000

So we're not seeing a whole lot of middle this season. One thing to keep in mind, if you pick up naps behind the app land application,

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01:06:24,000 --> 01:06:32,000

you might consider swapping two product like teams to fall army worms and turkey army worms, defoliation in general.

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01:06:32,000 --> 01:06:39,000

You know, we saw quite a bit of it early in the season this year. The biggest question is, you know, is what what am I looking at here?

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01:06:39,000 --> 01:06:44,000

Is this damage? Is this economical damage? Am I going to lose yield based on this right here?

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01:06:44,000 --> 01:06:51,000

And we've got a lot of simulated defoliation work over the past couple years looking at this.

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01:06:51,000 --> 01:06:57,000

And we would defoliate rice in multiple percentages, multiple timings.

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01:06:57,000 --> 01:07:02,000

And honestly, rice take a lot of damage before you start talking about your loss.

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01:07:02,000 --> 01:07:08,000

And so we we've got some new thresholds for this year for defoliation and rice.

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01:07:08,000 --> 01:07:12,000

And we're not going to have any treatments go out for a seed treatment

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01:07:12,000 --> 01:07:21,000

(?) The one caveat to that is if, you know, we're on heavy ground and which crack and those army works, we get down to the growing point.

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01:07:21,000 --> 01:07:28,000

We probably want to spray them, but we see no yield laws at those times that seedling stage all the way up to very early tiller.

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01:07:28,000 --> 01:07:39,000

But for May and June plantings or go on a spray if we exceed 40 percent defoliation at five or six tillers and 20 percent green ring.

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01:07:39,000 --> 01:07:43,000

So we do see quite a bit of yield loss there during (?) for those kind of planting dates.

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01:07:43,000 --> 01:07:48,000

And it does get worse as you move into June and it we're starting to see head clipping.

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01:07:48,000 --> 01:07:55,000

We're also going like a treatment there. But biggest thing here is let's not get too excited about a whole or about defoliation.

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01:07:55,000 --> 01:08:04,000

It takes a lot of caterpillars and a lot of time to get significant enough defoliation to cause yield loss.

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01:08:04,000 --> 01:08:12,000

So with the increase in row rice cares, we've also seen a big increase with rice billbugs and you can see a little clod here.

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01:08:12,000 --> 01:08:16,000

You got everything from the larvae to the adult. Now that adult’s pretty big.

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01:08:16,000 --> 01:08:24,000

It’s an inch to an inch and a quarter long. You can see some of those damaged tillers up here in the top left hand corner.

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01:08:24,000 --> 01:08:26,000

But just for comparison, you know, we all know what rice water.

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01:08:26,000 --> 01:08:32,000

weevil adults look like in their size and you see that rice billbugs but laying over their side.

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01:08:32,000 --> 01:08:39,000

So, you know, it's a big weevil is, much larger than a cross water weight. And, you know, you see it here feeding this adult feed.

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01:08:39,000 --> 01:08:45,000

And you can see it's inverted on that steam with its mouthparts inserted into that steam.

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01:08:45,000 --> 01:08:52,000

And one that's going to lead to is these deadly. So this is the far side we see of a rats bill bug infestation.

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01:08:52,000 --> 01:08:56,000

You know, we get up somewhere around 30, 40 or 45 tillers.

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01:08:56,000 --> 01:09:04,000

Somewhere in there. We start seeing a few of these dead leaves poking up and you start chasing that back and start looking at the base of that Taylor.

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01:09:04,000 --> 01:09:12,000

You'll see where that adult inserted his mouthparts in there. You can see circled up there where it is started is mouthparts.

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01:09:12,000 --> 01:09:16,000

And it started feeding on that plant leading to that tiller death.

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01:09:16,000 --> 01:09:23,000

And so if you look across this field, you know, at first it kind of looks like maybe some herbicide bar, maybe some fertilizer bar.

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01:09:23,000 --> 01:09:30,000

Everywhere you see those white flags sticking up out there, those white leaves, those are dead tillers calls by rice billbug damage.

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01:09:30,000 --> 01:09:31,000

So it can be pretty significant.

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01:09:31,000 --> 01:09:40,000

You know this was a field that was probably close to a mile long across the top of this had for you know 40, 50 foot into the field.

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01:09:40,000 --> 01:09:47,000

So that's a pretty significant amount of that field. And it was, it looked like this all the way across at.

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01:09:47,000 --> 01:09:48,000

And then egg lays.

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01:09:48,000 --> 01:09:56,0

So we're starting to see we're starting to pick up eggs out in the field around that fourth or fifth tiller you can see it is pretty small there.

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01:09:56,000 --> 01:10:04,000

Cream colored oval shaped. And, you know, they also calls those blank heads you see in this picture.

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01:10:04,000 --> 01:10:11,000

So. So when do they occur? When we first start to see and seeing this damage and you can see they're almost 60 percent of the time.

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01:10:11,000 --> 01:10:18,000

We first see damage you open the field is three or four tiller and also five to six tiller, green ring and boom.

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01:10:18,000 --> 01:10:22,000

It's rare that we see damage start. Typically, it's going to start right there.

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01:10:22,000 --> 01:10:27,000

Miss Taylor. As far as your percent risk of infestation.

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01:10:27,000 --> 01:10:35,000

So this is based on surveys. Are these students done? Chase Floyd, the past couple years and it seems like there's a tree line anywhere

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01:10:35,000 --> 01:10:40,000

around the field that these these bill bugs have some kind of association with.

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01:10:40,000 --> 01:10:45,000

And the damage is typically worse. Now, when it comes to light grassy turn rows

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01:10:45,000 --> 01:10:52,000

We have seen on feeding on like Bermuda turnrows, particularly waiting on the rice it seems like to get to the stage.

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01:10:52,000 --> 01:10:54,000

They won't get up to that very forward.

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01:10:54,000 --> 01:11:03,000

tiller, but if you have a tree line near over us in any kind of history of billbug but those those built I'd be pretty worried about.

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01:11:03,000 --> 01:11:07,000

And as far as a current, when we see the most adult activity.

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01:11:07,000 --> 01:11:12,000

And so this was in Jackson County. This is right there in Oil Trough. You know, we see that first week in June.

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01:11:12,000 --> 01:11:19,000

It's been that way the past two years, within about three days of each other the past two years.

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01:11:19,000 --> 01:11:26,000

And the big thing to keep in mind about that is, you know, that that might not be the case all the way across the state.

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01:11:26,000 --> 01:11:35,000

But it does seem like if you notice adult out in the field at a given time this year, you'll also see on going forward around that same time.

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01:11:35,000 --> 01:11:43,000

So going back to the seed treatments, we've done a lot of work with the seed treatments over the past couple years for rice billbug

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01:11:43,000 --> 01:11:47,000

And like I said, you know, it seems like Dermacor, Fortenza might come into play.

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01:11:47,000 --> 01:11:54,000

Pretty big for ‘em. You know, I mentioned those blank heads earlier.

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01:11:54,000 --> 01:11:58,000

And if you look here, I want to point out that that blue bar on the left there, that's cruiser fortenza.

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01:11:58,000 --> 01:12:03,000

And if you look at that dark blue bar in the middle, that's our entry. There's no pattern here.

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01:12:03,000 --> 01:12:07,000

There's no rhyme or reason on these blank heads. It's all over the board.

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01:12:07,000 --> 01:12:15,000

But once we put a combine in there, you know that courage for teens, a numerically had, the most blank heads, it's also got the highest yield in the test.

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01:12:15,000 --> 01:12:19,000

And what you can also see you look at the legend here on the right.

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01:12:19,000 --> 01:12:23,000

A legend over there. All right. You start seeing those combinations creep up to the top.

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01:12:23,000 --> 01:12:28,000

You also see Prevathaon in there. And that's the same active as Dermacor.

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01:12:28,000 --> 01:12:32,000

You used a lot that you used a lot on golf courses for.

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01:12:32,000 --> 01:12:36,000

For general, we will control larvae control.

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01:12:36,000 --> 01:12:40,000

So we've been trying it a little bit is not currently liable in interest when we've been trying for Bill Bugs.

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01:12:40,000 --> 01:12:49,000

And it seems like there might be some olaly there, but we've yet to find a good timing for follow your insecticide in general for rice bill bug.

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01:12:49,000 --> 01:12:56,000

But, you know, we look at it again, same similar treatment set here, but we look at it for damages tillers.

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01:12:56,000 --> 01:13:04,000

And once again, you start seeing that if you add in that that Cruiser, Fortenz; Cruiser Dermacor; nipsit, Fortenza nipsit,

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01:13:04,000 --> 01:13:07,000

Those combinations, we start seeing a pretty good reduction there.

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01:13:07,000 --> 01:13:12,000

And tiller feeding compared to the untreated or Cruiser, Nipsit alone.

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01:13:12,000 --> 01:13:20,000

And once again, it's the same tree and once we get yield. So if I go to if I'm going to to a row rice and I'm worried about rice billbugs.

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01:13:20,000 --> 01:13:27,000

which based on what we've seen in the past couple years in a bad location or in a bad population,

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01:13:27,000 --> 01:13:32,000

they can call somewhere between 25 and 30 bushels of yield loss.

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01:13:32,000 --> 01:13:34,000

Great, most of that's going to be on the top in the field.

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01:13:34,000 --> 01:13:42,000

But, you know, sometimes at top in the field that that top zone that doesn't hold water to save money,

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01:13:42,000 --> 01:13:51,000

that can be a pretty significant portion of that field. If I'm gonna go row rice, I'm gonna I'm gonna try to go one of these combinations.

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01:13:51,000 --> 01:13:55,000

And, you know, a lot of times we get the question, too, on how much is it going to cost?

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01:13:55,000 --> 01:13:59,000

Well, fortenza on a hybrid going to seven to eight bucks.

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01:13:59,000 --> 01:14:04,000

Whereas dermacor is going to be about 12 for conventional, they're going to be about the same.

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01:14:04,000 --> 01:14:09,000

So it does cause quite a bit more money. But at the same time, I can make that pay for itself.

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01:14:09,000 --> 01:14:16,000

Ninety five percent of the time, whether we're talking about furrow irrigated or flooded rice.

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And here the folks that make all this work. This is a combination of Gus’s and ben’s crew and mine.

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You know, we like to say it’s the hardest working crew in Arkansas and these kids put in a lot of work or a lot of hours for us every summer.

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I also want to thank the Arkansas Rice Checkoff all for the funding of most of this work you're seeing here.

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01:14:37,000 --> 01:14:45,000

And with that, if you need to contact any of us, I'm over in Stuttgart, guess being or over at Lone Oak and Glands up in Kaiser.

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01:14:45,000 --> 01:14:51,000

And here's all of our contact information if you need us. Appreciate it.

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All right. Thank you, Dr. Bateman. With that, I have one question I'd like to go ahead and throw your way right now.

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So on the furrow, irrigated rice portion.

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So hybrid. Or variety, should they choose to reach out that far?

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Kind of, if you're going for irrigated rice, are you adding for tens of a period as a recommendation?

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Yeah, especially on hybrid. I mean, it is definitely the cheaper option. I would go Fortenza out there, the same price.

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They're both going to be between 18, 19 dollars on the conventional side.

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So, you know, if you can get a deal on one or the other, I'd go that route.

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But either way, if I'm grow and if I'm growing row rice, I'm put in one of those diamonds.

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01:15:36,000 --> 01:15:42,000

I'll never see on that. See? OK, I'll throw you one more since it's closely related.

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01:15:42,000 --> 01:15:48,000

Do different soil types have an effect on the level of infestation or damage caused by rice Bilbo's?

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So it does seem like we see a little bit more damage on some of our lighter souls, kind of that White River region.

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But to be honest with you, some of the worst fields we walked in had been down in southeast Arkansas and it's been superheavy clay.

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You know, it doesn't seem like soul type has that big of a factor, but in most cases,

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they do seem like they move a little farther in the field whenever it's a little lighter soul texture.

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And that could be that it is not staying quiet. It's muddy and just being happy to go far during the field.

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All right. Thank you, Dr. Bateman. Again, a further reminder about it. Keep the questions coming and we'll catch up with any not answered at the end.

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Next up, we have Dr. Yes, You Will. Michi Extension Rice pathologist, and she's going to discuss Rice fungicide management.

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I know this is your issue.

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What Misha, extension plant pathologist for Division of Culture, University of Arkansas system today I'd be talking on pint sized treatments of rice.

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For disease to occur, according to the plan disease Wrangel, there must be a susceptible host.

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There should be federal and pathogen and federal environment in a given time.

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So to break this alignment of the triangle, then what we have to do is we have to use resistance based cultural practices,

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chemical or products for disease management. These are our tools and usually integrated approach is the best approach.

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And whether we use integrated approach or each tool separately,

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knowing the susceptibility or resistance level of your variety of choice is very important.

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And the fungicides should not be applied automatically and we discourage from automatic fungicide application.

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And that must be it raises to justify the use of fungicide

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For example, if your friend has got extensive history of disease and particularly under favorable weather

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conditions and if your variety is susceptible and your field has high yield potential.

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So you don't want to lose.

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Usage because of the disease effect effect and your rice is being gone for seed production or your rice is planted late because late season,

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you know, there are so many diseases that affect rice.

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And if you are planning or so the rice to retune, then use our feticide is justifiable.

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So in Arkansas, there are about 25 known diseases that occur, not all in one field, but across the fields.

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And among these, only four of them so far were very important for us to use fungicides

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She blight last Kerner's month and first met and recently, because of the wet and cold conditions, narrow brown leaf spot has become of concern.

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So if we start with shade, right, and we know that [INAUDIBLE] blight affects the Sheath

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the leaf reducing the surface area for photosynthesis, it affects the stem, weakening the stem and causing bloating.

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And it also affects the head and reducing the yield directly.

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And it produces all sorts of Russia too over winter and that over winter disclosure also would be affecting our next crop in rotation.

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So we have to control this disease or suppress this disease.

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And due to that, you know, we have to determine the threshold because the threshold has been established for this disease.

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So 50 percent positive stops for varieties which are whether it is susceptible and said five

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percent positive stuff for varieties which are susceptible or very susceptible are the threshold.

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And these are given in MP one ninety two.

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You can refer to that. And again, your decision should not be based on what you see at the edge of the field, because at the edge of the field,

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what happens is usually it is dense because of double drilling's and or also there might be some overlap of nitrogen application.

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So that is this may look severe.

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So you have to walk to the center of the fields and make some stops, about 40 stops after every fifty steps and then determine the threshold.

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And if possible. Look at the weather or so.

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And if the weather is not favoring the disease, then delaying the onset application is economical.

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Because it is not paying to spray or to apply the fungicide for sheath blight let alone more than one time.

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So several years back, we did the experiment and what was the timing?

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So we had an unsprayed check and a sprayed at PD and a spray at boot stage

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and the boot application actually gave the highest yield and also the lowest.

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I mean, the lowest disease also was in the in the boot application generally.

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So the other this is is a blast and blast is very destructive disease,

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and yet up to near 100 percent can be can result out of a blast if not protected.

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And so live blasts may or may not need frontside application.

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For example, here you can see there is life burn downs.

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And in this case, you know, siblings may die and there might be some loss, but a spot application is usually recommended.

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When it comes to fungicides.

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But the late season blasts such as neck blast, panicle blast and collar blast arw the most devastating and protective fungicide that is recommended.

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And when we say protective, then it has to be applied early on before the disease orcas.

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So the early scouting of the lipless will make us proactive to plan for fungicides application.

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So we have to know our cultivar and their fill history and we have to know also where

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the Scarlet's says that we will not walk across all fields so drier edges of the field,

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Levis or three lines or wherever there is, you know, high ground in the field or that is wherever there is an overlap of the nitrogen application.

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And once you suspect that there is a there might be some blast, it is always wise to flag that area.

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And so that you can go back until you confirm that it is actually blast with the typical symptoms.

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And once we you know, that the typical symptomatic blast is they're usually found and the lower leaves, then you have to raise definite depths.

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And by raising that depth, the lift blasts can be suppressed to some extent.

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And as for production also would be reduced. But we have to be proactive to plan for the fansite application for the light season necklaced.

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So I'm using her head out to say that how much of the panicle has got out of the boot and head out does not refer to headache.

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So that's usually the first application is done between let boot to a 10 percent head out.

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And the second application is done between 50 percent to 75 percent head out,

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meaning that the part of the neck and part of the planet could should still be within the boot.

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So once the next are out, then we don't benefit from the front side application.

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If it's just a waste of money. So another disease, which is very similar to blasts because it produces or develops different races.

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And also it is a late season kind of disease which affects the (?) from panicle emerges to maturity.

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And it's called the narrow blight. Narrow brown liver spot.

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And so the spots look like the brown spot.

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But they are oval shaped or they are elliptical and sharp.

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And sometimes you may not even see these spots on the leaves.

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The effect may be seen on the pedestal or here on the neck and also on the panicle branches.

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And if we look very hard, we can also see them on the on the seats.

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So there are resistant varieties that have been identified.

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And unless all fungicides are the major fungivides that are recommended for for them.

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And I'll be discussing about the timing of that fungicide application for the NBLS in the next maybe one or two slide.

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So this disease. The next disease is a kernel smut but it can get very nasty if there is a full history.

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And if our culture of practice, particularly if we're applying excessive nitrogen and high seeding rate,

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you know, the condition might be very bad depending on the weather.

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It likes wet and warm, wet conditions and warm temperatures.

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And so cultural practice alone has more value than fungicide alone.

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I know. But the two together will give us the adequate result.

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So when it comes to the size, again, you know, kernel smut is more sensitive than the enforcement and force.

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It shows very conspicuously in the field.

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And it looks nasty. And some people say that it is a high yield disease.

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And because, you know, again, excess nitrogen is added.

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And and also history matters in this case.

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And but unfortunately, this fungus is not as sensitive as the companies as.

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And because of that, we are having more and more of false smut every year in all varieties conventional as well as hybrid.

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So when it comes to the timing of fungicide application for smuts early to mid boot is the recommended timing.

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And it is usually, you know, confusing to identify the early boots to midboot stage.

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But if you're just like determined from (?) and you could rejection like seven to 10 days.

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The early with may start. And, you know, about like 14 days, maybe much made.

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Boutte's may start. So the optimum timing is mid boot.

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And it is just before the full swelling of the the boot.

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So this is actually a full boot. And then that boot then, you know, with split.

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And it continues like that. So this is like a summary for the timing of fungicide application for the five.

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This is last can be applied from that booth, two seven five percent head out.

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I'm telling you, head out again is not heading.

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OK. And hit land from midboot to late boot. Kernel smut

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Much from early, but to midboot and false, same as the kind of smart and narrow brown lift spot if planted late.

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We have to go with fungicide early. If planted at mid-, then Midboot and if planted early, maybe, you know,

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we can go late because this is this is usually severe as the season and the crop gets late.

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So I got this information from Louisiana, but if we get the funding, we start working on narrow brown leaf spot.

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that's caused by Circosta.

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So as to the fungicide sources for rice, you can refer to the 2020 concept like Disease Control Product Guide.

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And on page 19, there are seed dressing and page 20 for foliar application.

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And I have not talked about the seed dressing.

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But see, dressing is very important, particularly for early planted rice and which are actually suffering the early season.

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So they're sit dressing face out should be combined with insecticides.

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So that is a vital point as well.

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So another experiment that we have been doing the last two years was a water void.

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What watered what is actually good for adequate coverage and to decrease the disease and increase the yet.

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So we have seen that. The more the water.

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So we actually used it for our experiment. That was a three gallon per acre or ten gallon per acre and 20 grand per acre.

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So up to now, I mean, 10 got into any gallon.

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They gave they gave us almost similar results. But the three gold was not significantly different from the other spray.

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Check when it comes to disease as well as yet.

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So where's the other spread? 161 and three G.P.A.

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One eighty four, one seven nine. And when it comes to 10 G.P.A., the yield has increased.

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And we're not recommending for the farmers to use 20 AGP That's not feasible.

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But going up to ten G.P.A. and a minimum of five G.P.A. is adequate as the recommended before.

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So we have to follow the guidelines if we have to do it.

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Let's do it right. Coverage is vital for adequate results, not only for combat, but for our rice from their respective diseases.

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So now the checklists for to spray or not to spray.

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What is the reaction of my variety to the major disease that I have in my field, which disease has major impact on in my field?

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And conditions are favorable for disease development.

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What's happening in my neighbor's field? Talk with you, with your neighbors.

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What's going on in that field? Is my agronomic management plan helping or hurting the disease development?

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Is my funny side timing correct? Or is it too early or too late?

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At what growth stage is my rice? What's weird?

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Funny side application. Costumey. That's important to have a cost benefit analysis.

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Which funny side should I use? What Red gives the best suppression and what volume of water gives the good coverage.

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Is Funny Cide justified for my fidge that is is to feel profitable.

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And you have to know that the purpose of Frontside application should be to make money, not to lose money.

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And my final notes, fansites prevent huge losses due to diseases.

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They should not be used as yielding answers.

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Twenty sites are not hundred percent effective in controlling diseases and feticide applications are expensive and if not manage correctly,

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they may not pay for themselves. So with that, I'd like to acknowledge.

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University of Arkansas for the opportunity given to us and the rice balls or the rice take off for the financial support

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to do our experiments and or so our industry support us for their financial help as well as other collaborations.

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Thank you very much. Thank you for that update documentation.

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Next on the program, we have Dr. Trent Roberts, extension soil specialist, and he's going to discuss some rice fertility recommendations.

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Dr. Roberts. Hello, my name is Trent Roberts.

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Now I'm an associate professor with the University of Arkansas System Division of Agriculture.

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And today my topic is going to be Rice Nutrient Management.

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So as a brief, topical outline, we're gonna start out discussing nutrients, limiting Arkansas rice production.

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We're going to talk about nutrient budgeting and how that influences rice yield as well as profitability.

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We're going to talk about nutrient management and for irrigated rice,

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which will roll into overall zinc management and then end with poultry litter value.

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So first off, if we just think about what our common nutrient deficiencies are going to be in Arkansas,

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rice production, we have to start with nitrogen.

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So on the majority of our soils, nitrogen is going to be the most limiting nutrient is going to have to be applied in the greatest quantities.

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In order to maximize not only our yield but our productivity and our profitability, phosphorus can be both limiting at high and low peaches.

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And so we need to adjust accordingly. Potassium, especially, are lighter textured soils is going to be an issue to maximize our our rice yield.

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And then Zane can be an issue both in very high and very low soil pages.

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So if we think about fertilization, economics and productivity,

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know our rice management system encompasses a lot of different facets and fertilization is just one piece of that puzzle.

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But what we have to understand is that fertilization plays a big role ultimately in

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our return on investment and the overall profitability of our production system.

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So if you look at the 20 20 one cooperative extension service crop, Innosight crop enterprise budget for rice.

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We see that anywhere from 20 to 25 percent of that production budget is associated just with fertilization.

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And here what I've done is pulled out the recommendation that's included for phosphorus and potassium.

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And what I'll remind you is that it is for a medium sole test be in a medium soil test kit.

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So what we find is that recommendation is a zero 50 60 in terms of nitrogen P. 25 and K to O.

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And the cost of that would be roughly 28 dollars and 40 cents per acre.

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So this is set as the default in our rice crop enterprise budget.

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And so if you just go in there and look at that number. This is the number that it's going to be using as its estimate.

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Now, what I want to do is break that down a little bit further.

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And so in this while we're looking at is the associated PPI and fertilizer costs for our

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University of Arkansas recommendations when we have a P.H. of greater than six point five.

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Everyone should be familiar with the fact. That our phosphorous recommendations are broken up into P.H.

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Greater than six point five mph. Less than six point five.

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So what I chose to do was use the P.H. greater than six point five because those are higher rates than the others.

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So I don't want to use the term worst case scenario.

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But these costs would be higher due to the higher application rates associated with the increased oil, P.H.

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So over here on the left hand side, we have our soil test categories and we have the associated pito about application rates across the hot top.

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We have our soil test potassium categories and our associated Katou o fertilization rates.

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And then what we have is the cost associated with each of those coordinated application rates.

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So what you can see here is from the previous slide,

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I mentioned that the crop enterprise budget assumes you have a medium soil test P and a medium soil test K,

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so that associated cost for those nutrients would be roughly 28 dollars and 40 cents per acre.

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Now, part of the reason I included this slide and I want to spend time on it is if you look the soul test lab

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of and the most common recommendation that they give out is for low soil test P and low soil test K.

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So what that means is if you just use the default in our crop enterprise budgets,

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chances are you're actually underestimating the cost of applying both your phosphorus and potassium fertilizers.

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And so what I wanted to do is just provide this table to you so that you can kind of see how changing, you know,

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not only your phosphorous soil test concentration or category and the associated application

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rate as well as your potassium is going to influence the costs associated with fertilization.

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Now, one thing to remember is that as we get to our low and very low soil test categories,

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those are the two categories where we would expect the greatest magnitude of yield response as well.

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As well as the greatest probability of yield response.

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So those are the ones where we would expect the greatest return on investment for these particular application rates.

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The second thing that I want to emphasize is when you're using those crop production budgets specifically for fertilization,

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you know, sometimes that default value is going to work for you.

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But if you want to get a true indication of how your fertilization program is impacting your profitability,

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you really need to go in and actually put your actual soil tests,

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concentration related pito five and Katou rates in there to see what it's going to cost you.

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To switch gears a little bit and start talking about nutrient management and for irrigated rice production.

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And I think the first thing we need to do is talk about sopi age and how it's impacted by flooding versus non flooded conditions.

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So when we flood rice in a traditional direct seeded delayed flood production system,

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we have to understand that regardless of where we start in terms of our soil,

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P.H., the longer we keep that flood on, the more neutral the soil P.H. is going to become.

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So, for instance, you know, if we start out at a P.H. of five and a half.

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And we apply a permanent flood over time, our soil, P.H. is going to creep upwards to around seven.

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Or so.

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If we have a high P.H. of seven point eight and we apply permanent flood, you know, over time, it's going to tend to decrease towards neutrality.

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You know why that's important is the majority of our soil provided nutrients are

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going to be most available at a page of around six point five or near neutral.

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Now, when we look at upline crops or non flooded conditions, the page tends to remain at whatever the soil pages.

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It can trend towards the irrigation water.

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So if we have surface water, which might be slightly more acidic than our soil, P.H. might become more acidic.

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Or if we are using irrigation water, that's groundwater and it may have a higher P.H.,

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then those sopi ages may trend upwards towards that high P.H. or basic irrigation water.

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We have to understand that those changes MPH might increase or decrease our nutrient availability.

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So just to further emphasize that point, you know, this is a chart that basically relates nutrient availability to changes in soil,

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P.H. And what we find is that for most elements, a very low P.H. or very high P.H., we tend to have low availability of those nutrients.

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The second thing is that around this six and a half P.H. range is where most of our nutrients tend to be highly available.

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And so a lot of times we consider that our target, P.H., for soil management as we increase above this.

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Right. Most elements, we tend to see a decrease in availability as we go below this.

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Most elements, we tend to see a decrease in availability.

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So if we think about phosphorus in particular, we have to understand that phosphorus is going to be less available at high P.H. and low P.H.

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So the further from six point five that we move either up or down, the less available phosphorus becomes.

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And what this really has to do with is the solubility of the compounds of phosphorus forms in the soil.

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As we get more acidic. Phosphorus tends to precipitate out with aluminum, which is highly insoluble.

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As we started to get higher, P.H., Phosphorus tends to precipitate out in calcium forms that are much less available.

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If we think about how flooding the soil impacts phosphorus management,

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you have to understand the flooding, the soil is going to increase pea availability.

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And the longer the soil is flooded, the more available that pea is going to become.

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So what does that mean? Well, it means that if we have a soil that has a given soil test, PE concentration, if I grow a rice crop that's flooded.

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The phosphorus in that soil is going to be more available to the rice under a flooded condition than

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it might be to a soybean or a corn crop grown on that exact same soil in the upland condition.

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So we haven't really changed the soil test concentration of phosphorus.

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What we've changed is the availability of phosphorus that actually exists in the soil.

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And we won't get into, you know, the dynamics of that. But ultimately,

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those reduced soil conditions that come with the establishment and maintenance of a permanent flood is what leads to that increased P availability.

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So how does this impact nutrient management and for irrigated rice?

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Well, here's what we can tell you. Infer gaited rice where we use more of an upline type production system.

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We don't maintain, you know, a permanent flood on the entire field.

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And we have more upland growing conditions. We know that phosphorus is going to be less available in those situations.

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So what that means is that whatever our soil test recommends is the minimum amount of phosphorus that we need to apply

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because we know the soil availability of phosphorus is going to be reduced under those non flooded or upland conditions.

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We don't have enough data right now to really make changes to our recommendations for further gaited rise.

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We feel confident that our current solid test p. recommendations for conventionally flooded rice will work.

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But it's certainly not something we need to consider cutting.

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If you're growing furrow irrigated rice, please follow your social test phosphorous recommendations and use that as the minimum P to 05 application.

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If we think about potassium and how far gaited or upline conditions might impact its availability, it really shouldn't change much.

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If anything, furrow irrigated rice systems might change the loss mechanisms a little bit in terms of leaching or runoff.

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But they should not be substantial.

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I think our main concern with further irrigated rice and potassium management is how it might impact other factors.

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And so the one thing that we do know is that potassium is very tightly linked to disease pressure.

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And so what we find is that a lot of times when we have, you know, hidden hunger or deficient potassium,

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we have an increase in disease susceptibility or D.V. disease severity.

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Well, when we also remove the permanent flood from a rice production system, we can have an increase in disease pressure.

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So what I'm alluding to here is the removal of the permanent flood in a furrow irrigated rice system is already going to increase our disease pressure.

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So the last thing that we want is to exacerbate those conditions by potentially having potassium deficiency as well.

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So in those furrow irrigated rice systems, no, similar to what we said about phosphorus,

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those K2 to allow application rates that are given on your soil test recommendation are really the minimum amount that you need

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to apply because we don't want to have to deal with disease or increase disease pressure from the lack of a flood and then have,

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you know, our plant more susceptible to that disease because we're experiencing Quaye deficiency.

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The last thing I want to talk about in terms of a specific nutrient is zinc.

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It's very, very important for rice production.

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One thing that you'll find is that we break up our zinc recommendation into high P.H. and low P.H. soils,

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so greater than six point no and less than six point. When we have those higher P.H. soil conditions,

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zinc tends to be less available in the soil and therefore we recommend 10 pounds of

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actual zinc be soil applied all the way out through the medium soil test category.

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When we have more acidic soil conditions or P.H., less than six point no, you can see that the soil zinc is going to be more available.

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And so therefore we're only going to recommend zinc applications when we're in that very low soil test category.

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So what does that tell us? Zinc availability is tightly linked to soil, P.H.

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And when we have higher P.H., we reduce zinc availability.

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And so therefore we require larger zinc application rates to overcome that deficiency.

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Now, when we start talking about fur gated rice.

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We really have to understand that this is kind of a new and emerging production system and there are a lot of unknowns.

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But the experiences that we have in flooded rice systems can tell us a lot about what we should expect.

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And so if we think about traditionally direct seeded delayed flood production system, you know, when do we experience or when do I?

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I typically identify zinc deficiencies and rice.

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Well, if we have very, very severe deficiencies, you know, there's a chance that those can be diagnosed pre flood.

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But that's pretty rare. You've got to have a pretty significant zinc deficiency in order to elucidate enough stunting Tiller and,

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you know, lack of tailoring or bronzing to identify a zinc deficiency pre flood.

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The majority of the time when we're identifying zinc deficiencies, it's once we've applied our preflight nitrogen and we flooded up the field.

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That's typically when we start to identify those zinc deficiencies. Well, why is that?

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Zinc is very important for oxygen movement and transport in the plant.

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And essentially, if you have a zinc deficiency and you apply that permanent flood, you're suffocating the rice plant.

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And so that's why when it goes bad, it goes bad quickly.

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That's also why one of our primary salvage approaches is to remove the flood and allow that rice to catch its breath.

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So if you think about those two things that we know about conventionally flooded rice,

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you know, the big concern that we have is without the permanent flood.

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Will we be able to identify and correct mild or moderate zinc deficiencies?

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Because in a lot of cases, I I think in mild and moderate zinc deficiencies.

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We don't know they're out there until we apply that permanent flood.

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And we really stress that rice and put it in a situation where we can make it obvious.

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Once again, like I said, with phosphorus and potassium. We need to follow those soil tests.

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Zinc application rates, and we need to be very proactive about zinc management and variegated rice.

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And it's really due to the fact that my primary concern is we can have a lot of

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hidden hunger associated with irrigated rice that we don't properly diagnose because

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we don't stress it or push it to the point where we would see those deficiencies

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like we might in a traditionally direct sea delayed flood production system.

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So now just overall zinc management. I really wish we could start moving towards more proactive soil, applied zinc management.

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You know, typically if you're in those categories that require zinc, it's going to recommend 10 pounds of actual zinc soil applied.

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We're most often going to use a granular zinc sulfate, which equates to about 33 pounds of product per acre.

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And the cost associated with that is oftentimes a very hard pill to swallow

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when you think about twenty five or thirty dollars per acre just for disease.

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That doesn't count what you might need in terms of nitrogen, phosphorus or potassium.

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The one thing that I really want to drive home here is that this is a big price tag.

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But in four applications. We can typically move your soul testing concentration from the low to the optimum soil test category.

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And what that means is once we move into that optimal category, chances are it's going to be several years before we have to apply zinc again.

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We don't necessarily know how long that's going to be because it's going to vary from field to field and system to system.

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But the point I'm trying to make is a proactive approach with soil. Applied Zinc is truly one of those scenarios where you're putting money,

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where you're putting nutrients into your soil bank that you're gonna be able to take advantage of for years and years to come.

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Now, unfortunately, yeah, that's about a hundred dollar per acre price tag.

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But what's the alternative? Well, if you truly need zinc, you need it.

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In order to maximize your yield and productivity. So if you don't do 10 pounds of soil, Applied Zinc, what's the alternative?

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Well, it's gonna be one pound of foliar Applied Zinc. We typically use a chelated spray, which is going to roughly cost the same amount.

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Twenty five to twenty eight dollars per acre. The problem with foliar zinc applications is they have almost no impact on soil testing concentrations.

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And so really, they're bandaids. Yes. They fix the problem. Yes. They allow you to either recover, yield loss or maximize yield potential.

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You know, in a traditional system. But it's a Band-Aid because it's something you have to do every time you grow rice in that particular field.

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The more proactive we can be with just general zinc management and rice.

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I think the better off we're going to be. But especially in four gaited rice, we need to get ahead of the curve.

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Last topic I want to talk about real quick. You know that chicken poop is probably worth a lot more than you think.

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In the Delta, we're getting a vast increase in the availability and distribution of poultry production across the state.

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And what that means is greater opportunity for our producers to have access to and utilize poultry litter as a nutrient source.

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The one thing that I want people to understand is that if you look at the nutrient value that poultry litter contains,

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more often than not, it has a higher value than what you're asked to pay for it.

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So what I've done here is tried to summarize what the value of various poultry litter sources are going to be.

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So over here on the left hand side, we have our nutrient analysis in in Pito five and Katou oh per ton for three

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different poultry litter sources that are commonly available in the Arkansas Delta.

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We've got them as the mean of samples that were submitted to the Arkansas Diagnostic Lab for Broilers.

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Hynde's and Pullets. If you can see here for broilers, the average of those samples submitted was a sixty one sixty one fifty five.

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Now the next columns we have the fertilizer equivalent value.

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If you were to purchase those nutrients as either urea, triple superphosphate or potash.

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And then in the end, we just sum up that nutrient value. So you can see here that our nitrogen is great out.

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And so a lot of times with poultry litter, depending on your production system and your crop,

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you can count twenty five percent of that for rice production and you can count about 50 percent of that for upline crops such as corn or cotton,

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whether or not you count. That is why we have that grade out. So that's really up to you.

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What percentage of that nitrogen you count towards the value of the poultry litter?

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If we consider. Right. The P and the K, you know, a broiler an average broiler letter is going to have a value for just the phosphorus and potassium,

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about forty one forty two dollars per ton.

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If we include all of the nitrogen, then that value jumps all the way up to almost sixty five dollars per ton.

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And so the only thing I'm trying to emphasize here is one poultry litter is an excellent nutrient source.

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You know, the majority of the nutrients are almost immediately plan available.

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If we look at the value of the nutrients contained in poultry litter compared to what it would cost us to buy those in commercial fertilizer sources,

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more often than not, the value of those nutrients contained in poultry litter is going to be greater than what we're asked to pay for it.

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If you're purchasing poultry litter, I'm going to encourage you to always get analysis one so you can calculate the true value of your poultry litter.

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But two, so that you know what you're applying and you can make adjustments, you know,

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to either your fertilizer recommendation to supplement with commercial PMK K or just

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to make sure you have an understanding of the rate of nutrients that you're applying.

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So to wrap up with some key takeaways, you know,

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just remember that our fertilization practices and our fertilizer budgeting are going to be tightly linked to our rice yield and our profitability.

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So we need to pay close attention to what those nutrients are actually costing us

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and what we're getting in terms of our return on investment with for a gated rice.

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We have to make sure that we soil test.

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We also have to make sure that we apply the P, K and zinc as the minimum rates based on those soil tests concentration.

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Cutting PPI can zenk to me, are not an option in fur gated rice production.

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There's a lot more wiggle room in traditional delayed flood rice production.

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To me, those are nutrients. You want to consider cutting when you're thinking about four or gated rice.

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You know, zinc is going to be very critical for high yielding rice and poultry litter is an excellent nutrient source if you have access to it.

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So just a couple of key things to remember. Lastly, I would like to acknowledge the support of the Arkansas Rice Research Promotion Board.

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Everything I discussed today was a direct result of research funds provided through their checkoff program.

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I would like to thank the University of Arkansas system Division of Agriculture,

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as well as my soil fertility crew for the countless hours that they've spent working on the research that we've presented today.

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Lastly, I know we're going to have a question and answer session, but I wanted to put up my email and cell phone number.

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If you ever have any type of nutrient related issues in any of our row crops.

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We feel free to reach out to me. And I wish you all the best 2021 that we can have.

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Thank you, Dr. Roberts. I'll throw one or two questions your way here before we move on to our last segment.

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The first question is, how much potash would you recommend?

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Just prior to planting. If you're in the low soil pest category.

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OK. Jared, thanks for the question.

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I would just remind everybody to remember that the this type of information is listed in our rice production manual as well as our rice.

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Quick facts that are sent out each spring prior to the beginning of the growing season.

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But in that low soil test category, we would recommend 60 units of K to o be applied immediately, pre plant and incorporated when able.

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One more. What about sulfur deficiencies? Have you seen any of those?

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So we're getting more and more questions related to sulfur deficiencies.

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I think the first thing that I would remind people is where we're most likely to see sulfur deficiencies.

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Those are going to occur on our very coarse textured soil.

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So sandy soils with low soil, organic matter, soil, organic matter is really the source of sulfur and the majority of our soil.

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So that's where it's going to be a problem is the lack of organic matter is typically what's going to lead to sulfur deficiencies.

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And I think they are becoming a little more widespread or we're pushing our yields to the point where they're becoming more evident.

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I think, you know, the typical areas we need to focus and think about managing sulfur are going to be right.

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Those areas in the field where we get textural changes from, you know, traditional rice soils to sandier, you know, coarser textured soils.

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And I think one thing that that's becoming an issue is areas where we have soil layers or sandy soil layers that aren't exposed at the surface.

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Right. So you may have heavy clay that's visible on top, but you've got a sand streak underneath that you can't see.

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And unfortunately, those are hard to identify until you actually see the deficiency.

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And then once, you know, we see it, we might be able to say, OK, well, it's a sub soil issue that we need to be aware of.

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But unfortunately, there's not a real proactive way to identify those areas.

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But Marylee soil texture and organic matter, what we need to consider.

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All right. Thank you very much, Dr. Roberts. Again, more questions in for him as well.

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That will we'll get to the very end. Next up, we have our final presentation.

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You're going to have to hear from me again, along with Mr. Chlapecka, PhD student.

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We're going to talk a little bit about fudrrow irrigated rice. Hey, it's Jarros Hardek again.

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And with me for this presentation is Mr. Justin Chlapecka, PhD student working in rice with myself and Dr. Trent Roberts.

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And we're going to talk a little bit today about fahrer irrigated rice.

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So really, over the past few years,

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the percentage of adoption in the state of Arkansas for gated rice or if I r or Ro Rice certainly really been on the increase.

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Well, we saw the first big jump around 2016.

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And if you're depending on how you want to look at it, the yellow bars or the total acres shown and then the white line shown,

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there is actually the percent of the acres within a given year.

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So any which way you want to look at it. Definitely been been climbing dramatically.

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Our current estimate was that in 2020, around 14 percent or about two hundred thousand acres of our irrigated rice was grown in the state of Arkansas.

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And at least at this time, based on results again in 2020, we do expect that number to at least continue to increase to some degree going into 2021.

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A few management considerations to keep in mind something we kind of like to touch on every year.

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Just as a general reminder, we are shooting for shallow beds.

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They're really just tall enough to hold water. So we want to watch out for those fields that maybe have a little more crawl slope that we're

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going to have a harder time keeping the water in the furrow and keep it from jumping bad.

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So, you know, that would be a restriction where you really need some taller beds if, say, we're in soybean to keep them in the furrows.

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That might not be a field that's ideal for furrow irrigated. Rice using old soybean beds is certainly an option.

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And it's proven to work very well when we can avoid ruts, which we did in a number of situations.

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Finally, in 2020, whereas previous fears that really wasn't an option,

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our preferred bed with the overall is roughly 30 inches on a lonely type soil, or about thirty eight inches on a clay.

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We can certainly go wider than that, but the risk increases. And when we've seen people try to say a you know,

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a 30 say getting beyond 36 inches to say a 40 inch ban on alonely type soil really start to run into some problems,

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getting water all the way to the center of the bed. And the same is going to be true on clay soils.

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We start getting a lot whiter than the 38. More.

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But the clay is certainly going to be more forgiving than that, along with topsoil of getting a little too wide.

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We obviously strong want to encourage the use of pipe planner, computerized whole selection of some sort to be more efficient,

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our irrigation efforts and in blocking at the bottom of the field to back some water up and really contain as much water as we can stand to it,

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to a depth that the young rice can stand within the field is all going to make us a little bit better at our four gated rice ever.

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We really want to focus on avoiding water stress around the green ring to half inch prolongation timing.

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So that's that's really a key period for when we're forming grain.

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The number of kernels and panicle branches that we're going to have is determined at that time.

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And water stress can be one of the factors that can hurt that formation.

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And then, of course, flowering through Greenfield. Right. Concerns there.

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When we're actually finally filling the grain and making it, we can hurt ourselves again with moisture, deficit stress, a lot of questions there.

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Certainly not much will work at this point on it. But from a from a general standpoint, we want to drain light.

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Obviously, we're not truly draining the majority of the field because most of its for gaited, except for maybe the bottom where we're holding water.

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But we want to make one more irrigation after the normal drain day.

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Whenever you would think the field would be ready to drain,

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you can make one more because that profile is not saturated the same way it is when we're going growing a flooded rice environment.

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However, if we are backing water up at the bottom of the field, it may be that we can go in and turn that water loose at about a normal drying time.

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And then just then that next kind of last year negation. It kind of comes in after that.

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We'll certainly just kind of rover out on the field, but that'll help us get dried up and firmed up.

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Or we can hopefully even have a more efficient harvest this way as well.

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We have done some small plot variety trials the past couple of years in irrgated rice systems.

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The ones here are at the Rice Research and Extension Center at Stuttgart,

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as well as an on farm location in Monroe County, again, focusing on loamy soils at this point.

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But there's certainly quite a bit to look at. We basically what we do is we plant replicated versions of these all these varieties,

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but we've put one at the very top of the field right up next to the pipe and then one at the very bottom.

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And again, both of these. Each one of these. Sites each year.

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You know, we were backing up water at the bottom. So it turned into more of a flood.

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More and more, as the season went on, the rice got bigger. We could hold more water. And certainly you can see that.

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Regardless whether we're talking varieties in long grain varieties, medium grains or even the hybrids,

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the bottom in the field doing a lot better than the top end of the field, certainly, again.

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Anything we're putting right up against the pipe within that first 50 hundred feet is going to be more difficult to adequately manage,

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whether it's the fertilizer (?) or especially the water and getting the beds to wait, being right up there near the pipe.

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And in some cases, obviously, the cold water effect, having that that impact right there.

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And as you move out to the middle of the field and get away from it,

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we expect that to improve and certainly be a lot better at the bottom where it's a lot more like a flood.

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So we kind of jump over to kind of the main, which is the average across all the top and bottom numbers that you see there.

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Certainly we we we want to be very,

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very careful with the varieties that we're not putting them in situations that are too stressful and they can handle some of their yields,

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do look very good at the bottom means of the fields, but they certainly leave a lot to be desired near the top.

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And so that's where we're going to struggle with making sure we get them adequate nitrogen,

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inadequate water, should you choose to put a variety in that situation.

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But we can pick out some varieties that did perform certainly a lot better overall relative to the hybrids that still look pretty strong,

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whether that was top or bottom of the field and the medium grain varieties look OK as well.

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So that kind of leads us to still a similar level of recommendations.

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What we've held in the past, and that is that, you know, kind of the hybrids in general,

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753 sending about 21 full page and others are still looking to be the safest, most the more consistent yielders.

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However, some of the varieties do maintain kind of the general differences in yield that we expect,

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even in a flooded environment of around that 20 bushel an acre difference, particularly with sealevel 16 and sealevel 17.

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And at times, even even Jupiter is a medium grain. But but we did see a little bit more, actually, just kind of, you know,

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in in field observation of the stress that Sealevel Fifteen and Jupiter dealt with in a robust environment and

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especially on some steeper fields or where we couldn't manage the water and maybe the fertility is adequately.

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They did have a few more problems.

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And then as you start moving further down the list and talk about Dam and PBL otu, Selmo four and even one hunting Trojan things,

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it's not just the water stress and gestae environment stress,

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but also increasing blast concerns as well, trying to grow those without any flood present.

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So we're still going to lean toward the hybrids first from a recommendation standpoint.

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There are varieties that can and will be players in a four gaited system.

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But we're certainly going to want to lean towards those for irrigated fields that are in perhaps age way to think of it as maybe more shallow sloped,

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more easy to uniformly manage is where we're going to consider maybe put in one of the varieties there

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beginning keeping in mind those those of those three clear bill varieties all have blast resistant genes.

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So they don't have complete resistance. But there's certainly a lot safer than a lot of other offerings.

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But we do steal again from a variety standpoint, have some some just general stress concerns that we have to be able to help them withstand.

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And keep in mind, this list is not complete by any means. These are just in here for examples.

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There are other varieties and hybrids out there that are going to fall into various categories here.

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But without trying to grab them all at once, this discovers a lot of the major bases.

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And with that, I'm going to swap over and let Justin visit with you a little bit about his portion.

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Thank you, Dr. hardke I'm thankful for the opportunity to be here. Funny, you guys. I know that we all kind of wish that we were in person,

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but I'm still thankful for the opportunity to be here and present some of the research we've been working on over the past two or three years.

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So it's looking at some irrigation trials that we actually looked at in twenty, eighteen and twenty nineteen.

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We looked at two different sides. We at one at Pine Tree, which is around called in St. Francis County.

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We also did aim at the northeast, very large, an extension center, which is at Keiser over in Mississippi County.

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And we looked at those two differences because of obviously Pine Tree’s,

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more of a Calloways silt loam and then Keiser’s, more Clay Sharkey, clay soil type weeds.

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The reason that I've got these plot dimensions in here is that we we tried to mimic the Bertier get rise commercial situation.

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Now we've got six hundred fifty foot long plots at Pine Tree. 50 foot plot, a quarter mile runs at Northeast Research Extension Center.

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We're just trying to get as realistic of ideas we can of while looking at this resort situation.

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So looking at grain yield in these irrigation trials, what we've got here is grain yield.

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Obviously in bushels per acre on the y axis, then they expect it's going to be our treatments.

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And what you can see here is that the top of the field,

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this is the top one third of the field was cut separately from the middle one third and in the bottom one third.

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So the top third would be in that red bar and then the of Drybar strips at the middle third of the field.

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And the white bars represent the bottom third of that field.

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And so one thing that I want to point out here is that you can see where we're lacking a little

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bit of yield in the top and middle thirds of the field for all these irrigation treatments.

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But what's you averages together?

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We're probably looking at about 10 to 15 bushel difference between our control, which was our conventional flood and then our gated right treatments.

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And one other thing I'd like to point out is that, you see,

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it's pretty much looks like up copy and pasted these three fairly irrigated Roshe treatments.

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So it looked at, regardless of which of these three thresholds we threw at it,

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up to a negative forty five cinnabar threshold with our watermark sensors.

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You can see that we were still looking at pretty much the same yield as if we were looking at the negative 15 treatment.

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Looking ahead, Ross yield, we did not see any treatment differences even among the earlier gated rise versus the conventional flood.

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But we did see with the firm irrigated rice was a difference in the area of the fields.

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So between the top, middle and one third of the field, we're looking at about 40 percent headrests.

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What we saw at the top of the field, we stepped that up to about 50 to 51 percent in the middle of the field and

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about fifty one to fifty one and a half percent at the bottom of the field.

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So we're looking at kind of a stepwise increase as we move to more water available,

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and especially once we get into that flooded environment, which is generally what we would expect.

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So, however, we're not looking at you see,

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we saw about a three percent head rice loss on top of the field where there was no flood at all compared to the bottom of the field.

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So we are looking at a slight head. Rice had rice loss with that loss of the flood and the total rice.

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We kind of saw the same general trend, not not near significant, but we did see about a half a percent head.

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Right. Scuse me. A half percent total rice loss. We moved in the bottom of the field to the top of the field.

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Looking at irrigation water use in these same trials, we did see a significant decrease in irrigation uses,

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irrigation usage, especially as we moved into these treatments that we were getting less frequently.

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So as we move to the negative forty five cinnabar threshold,

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we used about two two acre feet of water as compared to about three acre feet of water with our control as well as the negative fifteen treatment.

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So you can see numerically we're actually using a little more water.

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If we were irrigating with that negative fifteen treatment, which was two to three times per week.

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In the absence of rainfall, however,

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we were able to save quite a bit of water if we were moving it to that in those greater thresholds where you're getting less frequently.

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And so what we saw again with these was you get it, rice does have the potential to yield with flooded rise,

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pretty close up there, possibly 10 to 15 bushels off, especially the top of the fields with our hybrids.

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And as you saw Dr. Hardke's talk earlier, it could be possibly even more than that with our varieties, the top of the field.

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The negative 40 bob cinnabar threshold on these watermarked sensors that we were using was an acceptable threshold,

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and I do want to point out that we were installing these at the top of one third of the field and instead of the middle third or the bottom one third,

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as you would do in soybeans, for instance. So we installed these on top of the third, about a four inch depth.

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And what that is, we were looking at the main root zone of the rice crop. We installed at that depth.

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All we saw is irrigation about every five days was an acceptable schedule.

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That's pretty much what it boiled down to when we're looking at these watermarks.

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However, we do see the utility and still using these sensors as opposed to just going with a calendar schedule for certain instances,

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such as what if we don't get an effective irrigation all the way through or what if we get a half inch rainfall?

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What do you do? The soil moisture sensors really helped our net out without just taking the guesswork out of it pretty much.

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And we're looking at the potential for 30 to 40 percent water savings. With that especially, we go with that negative forty five cinnabar threshold.

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We saw about two of acre ranches, sightings of which again, is about 33 percent of the water that we would normally apply to a conventional flood.

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And now moving into a second aspect that we've been looking at over the past three years.

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And that's our potash trials. And most of these were done in a commercial setting along with our cooperating producers.

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There were also a few that were done on research stations.

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We looked at 10 loam sites and all of these did have a 30 inch barrel spacing, which is what's recommended for a cell phone.

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And we had five CLY sites, which for these utilized the thirty eight inch barrel spacing.

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And then one utilized a seventy six inch barrel spacing. So, again, three years, Howard was grounded, all sides.

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We did not use any varieties in these, they were mostly 753. There was also 173 01.

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I believe a water was backed up in some of the fields, but not all of the fields.

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Some of these were steeper hillsides than some of them were more shallow grade.

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02:16:29,000 --> 02:16:33,000

Looking at our national management structure, I just kind of breezed through this quickly.

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02:16:33,000 --> 02:16:40,000

So what are treatments two through six that we looked at in that second column, that total Nosheen write in pounds per acre?

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02:16:40,000 --> 02:16:45,000

So we based treatments to those six on the Nosheen right that you would normally apply to your flooded drop.

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02:16:45,000 --> 02:16:47,000

All we did was split that anywhere from a single Priefer,

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02:16:47,000 --> 02:16:54,000

our pre irrigation application all the way up to a four way split of that recommended nitrogen.

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02:16:54,000 --> 02:16:59,000

And we look at treatments 713 Trauma seven was a two way split space a couple weeks apart.

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02:16:59,000 --> 02:17:04,000

And then we added an additional application of 100 pounds of urea treatment.

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02:17:04,000 --> 02:17:09,000

It was three shots of one hundred pounds various by seven to 10 days apart.

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02:17:09,000 --> 02:17:14,000

And Treatment nine was an excessive single pretty flood. So we we went with 210 pounds on a clay.

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It would have been about 180 pounds on a cell alone. And we went with that all pre irrigation.

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Mary Mateen, we only added that in 2020, but that was looking at four shots of 100 pounds of urea.

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02:17:28,000 --> 02:17:32,000

And what you can see with our grain yield, this graph here is for our clay starts in twenty eighteen and twenty nineteen.

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So that's three, four sides averaged together here. A rice grain yields on the Y axis.

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02:17:38,000 --> 02:17:42,000

Again, we've got top and bottom of the field. We we split this into two zones.

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02:17:42,000 --> 02:17:49,000

We had plots at the top of the field which were very close to the irrigation pipe that we have plots the bottom of the bill, which we're very.

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02:17:49,000 --> 02:17:53,000

Which were generally flooded, however, not at all situations, but for all the Kleiss.

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02:17:53,000 --> 02:17:57,000

I'll call all the clay fields. They were flooded at the bottom of the field.

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02:17:57,000 --> 02:18:04,000

And so what we saw here is that at the top of the field versus the bottom of the field, we did not see much of a difference on our clay soils.

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And actually, with some of the treatments, the top of the field actually averaged slightly better grain yield in the bottom of the field.

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What we saw, again, very good grain yields, 200 to 250 bushel per acre rise.

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02:18:15,000 --> 02:18:18,000

What we saw. I've got three treatments highlighted here.

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02:18:18,000 --> 02:18:25,000

The twenty five twenty five fifty split, which is a general three way split that recommended fertilizer.

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We've also got a four way split. And then we've got, however, the highest bulk numerically for both the top and bottom of the field.

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Was that to a split that I mentioned earlier,

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plus the additional hundred pounds per acre of urea or I've got a label here, the fifty fifty forty six want to play.

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So that'll be seventy five pounds upfront and seventy five pounds of nitrogen two weeks

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later for about forty six pounds of nitrogen about one week after that second application.

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02:18:52,000 --> 02:18:58,000

And that was again averaging over 280 bushels per acre. And these small plot trials.

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02:18:58,000 --> 02:19:03,000

Looking ahead, rice yield, we kind of saw the same stepwise effect as we moved into our of different splits.

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02:19:03,000 --> 02:19:10,000

And again, we saw that 50 50 split plus the additional forty six pounds of Nosheen was our overall winner of the head.

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Rice yields at these sites. We did have one other that produced optimal head rice yield, that being 140 percent single pre flood.

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We can kind of see that also because it is just the excessive in rice more nosheen that we put out early our treatments.

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02:19:26,000 --> 02:19:31,000

So I would expect a slightly higher head. Rossio that also living in the grain yield.

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02:19:31,000 --> 02:19:35,000

This is our 20/20 of Sylt, long sites for grain yield.

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02:19:35,000 --> 02:19:41,000

And you can see us sit long. We had many more options and stars. What they represent is the highest, the highest yields.

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02:19:41,000 --> 02:19:46,000

So what you can see is that as long as we got pretty much out in a three way split to a four way split,

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02:19:46,000 --> 02:19:51,000

or if we added additional nitrogen, that we did optimize yield in 2020.

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02:19:51,000 --> 02:19:52,000

And actually, if you're looking at the twenty,

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02:19:52,000 --> 02:20:00,000

eighteen and twenty nineteen sites that were even more treatments that were possible to optimize yield on the caelum soils.

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Looking ahead, rice yield, we kind of see the same story,

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02:20:02,000 --> 02:20:07,000

had rice both at the top and bottom of the field, was very similar with the majority of our treatments.

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02:20:07,000 --> 02:20:13,000

It was also greater at the bottom of the field. That's one thing that I forgot to point out on the grain yield that only Sylt loan size.

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02:20:13,000 --> 02:20:21,000

The bottom of the field is producing greater grain yield and head rice yield that the majority of our situations.

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02:20:21,000 --> 02:20:27,000

So it's looking at some quick conclusions, the top option on the clay soils was that seventy five seventy five split,

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plus the additional forty six pound per acre application. At that one week after that second application,

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we saw about eight to twenty six bushel per acre yield advantage from this application method versus just doing

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02:20:39,000 --> 02:20:45,000

the two way split of the single pretty flood without that additional forty six pound per acre application.

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Also, we saw that more options were able to maximize yield on our soil long.

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We're looking at the four way split, the twenty five percent Thom's four weeks. Also looking at them, the same option we had in our clay soils.

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The 50 50 plus the forty six did a very good job on these soils.

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Another option that did very well for us was the three applications to forty six pounds per acre,

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02:21:03,000 --> 02:21:09,000

which is three applications of one hundred pounds of urea. That looks like one of the top options to us on our soil.

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02:21:09,000 --> 02:21:15,000

Loam soils. And with that, I'd also like to give a quick plug to our further gaited rice handbook.

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This just came out before the growing season this year.

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02:21:19,000 --> 02:21:28,000

What it is, is pretty much a lot of the management recommendations that we went over in these slides, plus some additional recommendations.

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02:21:28,000 --> 02:21:37,000

And with that. This is Dr. Hard, his information on. Feel free to give him a call or or also sign up for some of the newsletters.

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Also some helpful links on the bottom. Also like to thank the Arkansas Rash Motion Board, the Arkansas Rice check off,

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02:21:44,000 --> 02:21:49,000

as well as the University of Arkansas Assistant Division of Agriculture for funding for these research projects.

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Thank you, guys. All right. Thank you, everyone.

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That's going to conclude our prerecorded presentations.

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02:21:58,000 --> 02:22:04,000

And before we move on to the rest of the Q&A session, I'd like to take just a moment to thank all of our faculty,

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staff and students for their efforts to improve rice production, Arkansas.

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And just as importantly,

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one more time to thank the Arkansas rice producers and the Rice checkoff funds administered by the Rice Research and Promotion Board.

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02:22:18,000 --> 02:22:23,000

All of the work you've seen here today wouldn't be possible without that support.

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02:22:23,000 --> 02:22:28,000

And we hope these presentations help to demonstrate those Check-Out dollars at work.

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Also, remember that sea use will be submitted after the meeting for those that provided their license numbers when they registered.

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02:22:35,000 --> 02:22:44,000

If you did not provide those numbers and do want to receive credit, please email that information to Rice at U.A.E ex.

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Got you. And now we're going to move on to the rest of the Q&A session.

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If you haven't already, please submit any questions you have in the question and answer box.

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And we'll do our very best to get to all the questions that we have time for today.

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02:23:00,000 --> 02:23:11,000

One that I'll go ahead and jump to. Sorry it moved on me is for Dr. Roberts.

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02:23:11,000 --> 02:23:19,000

How much P and K is available in poultry litter the first year?

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OK. Thanks for the question, Jared. For our recommendations and the letter types that we utilize in Arkansas,

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we assume that 100 percent of the P and K is immediately plant available in our poultry litter.

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So whatever your analysis says for P and K, we would assume that that's going to be plant available that season.

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I believe this is in reference to Row Rice.

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02:23:56,000 --> 02:24:01,000

What is your recommendation on heavy soils were sold to show sufficient.

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02:24:01,000 --> 02:24:05,000

Kay. But still seeing some deficiencies in the season.

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02:24:05,000 --> 02:24:12,000

Looking at possibly doing a 50 50. Damp and potash application prior to tailoring.

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02:24:12,000 --> 02:24:22,000

So I think that is a good approach. You know, a lot of times in Rice, whether it's traditionally flooded rice or fir irrigated rice,

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we don't see a lot of R.K. deficiencies until we kind of get past, you know, panicle initiation or panicle differentiation.

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And that's really when we start to see Quaye deficiencies. And so that's a good time to think about, you know, putting out some potash.

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The other thing that I would mention is a lot of the work that Dr. Slaton and some of his students have

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completed recently has helped us develop a critical in-season tissue concentration for potash in rice.

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And we recommend that you sample the wide leaf, which is the upper, most collared leaf, and typically, you know, out to about the boot stage.

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02:25:04,000 --> 02:25:09,000

As long as we can maintain one point six percent K.

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02:25:09,000 --> 02:25:12,000

We know that our potassium nutrition is adequate.

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02:25:12,000 --> 02:25:19,000

So that is a new tool that we could potentially use to confirm whether or not these are actual K deficiencies.

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And so if you'd like more information on that tissue test and how to use it to diagnose potassium deficiency in season,

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please reach out to me and we'll get you more information.

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02:25:32,000 --> 02:25:38,000

All right. Thank you, Trent. I'll field one here from earlier in reference to Harvest AIDS.

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The question was, if we're trying to harvest. Three days after application, then why apply?

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Really, the goal there is particularly with higher moisture rice,

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02:25:50,000 --> 02:25:56,000

the twenty to twenty five or twenty to twenty three percent grain moisture range of application within three days

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we can see is as much or more than three percent grain moisture drop after that and not as much lower moisture's.

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But a lot are looking at those applications because it may not be dropping grain moisture as much, but particularly with the use of Stryper headers,

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the reduction in the moisture of the foliage and everything, facilitating a better harvest that way.

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So, again, the goal is still to try to be done harvesting a field that was treated in five days or less in that scenario.

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So with that one. Dr. Butts, I have one or two questions here lined up for you.

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In one of them is that do you see any problems with Fassett reemerge?

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I'm assuming that's referencing anything to do with rice injury or anything.

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Yes. So there's some potential for injury out of Fassett Pre.

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But in anything we've really done even in the past few years where it's been cool and wet conditions and everything,

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you know, it's on the slighter end of injury.

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02:27:04,000 --> 02:27:15,000

And the the fact that we get so much better we control out of it outweighs having a little bit of injury that we might see from it being applied pre.

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So I'm not saying you might not see some injury, but the weed control aspect of it trumps the little bit of injury that we might see because of it.

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One more. Are you seeing a significant difference in a three ounce rate of sharpened versus the two ounce rate applied as a pre?

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So that's a good question. I really haven't done a two versus three comparison too closely to see it on hands.

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I would say most of the time, especially when we're trying to apply that for earlier seeded Rice,

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having a little bit of extra product in there to lengthen our residual time out is probably a benefit still,

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but that probably is some we need to look at a little bit closer to try and make that comparison, especially from the economic front.

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But like I said, typically with early seeded rice, we'll get at least a little bit longer residual lot of having the three ounces versus two.

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And so it can pay off at that point. Very good.

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02:28:14,000 --> 02:28:18,000

Thank you, Dr. Will Michi in Row Rice.

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Do we have to worry about diseases in hybrids that we haven't had to deal with before?

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Were one known disease is blessed. But recently we are seeing also shed light to be important.

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02:28:34,000 --> 02:28:52,000

So other than that, we have not seen much. That need the smarts are there was in the hybrids and I mean a convention on whether it's flooded or not.

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Thank you know, and I will note that a few top ends of rice fields this year,

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02:28:57,000 --> 02:29:03,000

the Scottsboro or near Brownlee's spot, did appear to possibly be be worse, exaggerated.

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02:29:03,000 --> 02:29:08,000

But that's more fertility related or what? Little uncertain.

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02:29:08,000 --> 02:29:13,000

And the weather conditions as well. Absolutely. Absolutely.

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02:29:13,000 --> 02:29:18,000

A couple love of road rides. Questions I see here.

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02:29:18,000 --> 02:29:22,000

The small plot research Verratti trial.

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I believe this is in reference to where the cold water effect was at present, at the top end of all of those trials.

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Again, where some of those yields were extremely low on one of those field sites.

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Yes, there was a cold water effect. But on the other one, it was strictly surface irrigated.

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But the beds essentially would not work all the way through to the middle.

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02:29:46,000 --> 02:29:59,000

So that that was really the problem there. So, again, different problems, but each having a major problem on the top end of the field.

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Mm hmm. Sorry. Drawn, drawn to move around.

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Dr. Wamishe, I'll go and throw one right back to you since I just actually made a comment in this recount.

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Well, I guess we kind of covered it while I was there. So much brown spot in S.L fifteen this year.

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Well, brown spots, we've been thinking most of the effect is from stress.

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02:30:26,000 --> 02:30:32,000

So we need to find out what stress factor is there.

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02:30:32,000 --> 02:30:36,000

And the fungiide application is not recommended for blindspots.

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02:30:36,000 --> 02:30:41,000

So we have to just find out the stress, the stress factor. Yeah,

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02:30:41,000 --> 02:30:48,000

and I would blame a lot on the potassium deficiencies that we observed this year and in increasing their presence

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02:30:48,000 --> 02:30:54,000

and maybe sealevel fifteen is a little more susceptible to brown spot than we add the potash component.

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02:30:54,000 --> 02:31:02,000

Dr Bateman, question for you. Are you concerned with the increase of rice STEM borers?

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Yeah, you know, and especially for you guys up there in northeast Arkansas,

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02:31:06,000 --> 02:31:12,000

we walked several fields this year that have pretty extensive stambaugh activity going on out there.

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It is more than where, you know, commonly see around. It's still not a huge problem.

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02:31:17,000 --> 02:31:25,000

But, you know, it does seem like for the guys that have seen the past couple years, it is the increase in, you know, a few options you have there.

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And really the easiest option is going to help a waybills to is going with a Damico macaw for tens of our counterparts in Louisiana and Texas.

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I say good control of STAMBAUGH, particularly with Dharmic or, you know, it last quite a bit longer than their Potenza.

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02:31:40,000 --> 02:31:45,000

We see control with it out to 90 to 100 days, whereas for teens is usually 60 or 70.

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02:31:45,000 --> 02:31:50,000

So, you know, go one of those. Dymocks will help with Stenborg.

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02:31:50,000 --> 02:31:58,000

But the activity does seem to be picking up around the state, particularly in the northeast over the past year.

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02:31:58,000 --> 02:32:02,000

Very good. Thank you, Dr. Butts.

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02:32:02,000 --> 02:32:15,000

Do you think we are seeing an increase in grass escapes when mixing sharpen with propane, Neil, or even our burn down with Roundup?

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02:32:15,000 --> 02:32:20,000

I mean, I guess I haven't heard that or seen that too much sharpened really doesn't have activity on grasses.

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02:32:20,000 --> 02:32:26,000

And so typically when we start talking about reduced activity like that, it's with a burner and stuff.

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02:32:26,000 --> 02:32:30,000

It's because we burn part of leaves off and then the rest of the herbicides can't

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02:32:30,000 --> 02:32:36,000

get in there to work with sharp and not really burning grasses a whole lot.

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02:32:36,000 --> 02:32:43,000

You know, I just wouldn't expect too much of like an antagonism there. And the formulations, I don't think there's really antagonism there.

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02:32:43,000 --> 02:32:51,000

So it's not something I've seen. Let's let's just say that. And that's something I would typically expect out of sharp and for grass control.

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02:32:51,000 --> 02:32:55,000

OK, thank you, Dr. Roberts, comment.

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02:32:55,000 --> 02:33:04,000

I guess come as much as a question, seem to have more sulfur deficiency when we had flooded fields over the winter and then after the spring floods.

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02:33:04,000 --> 02:33:11,000

Any comment on that? So this is a little bit complicated, but it's probably twofold.

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02:33:11,000 --> 02:33:18,000

So sulfur in the soil is most often going to exist as sulfate, which is going to be like nitrate.

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So it's going to be prone to leaching. So anytime we have winter flooded conditions or prolonged flooded conditions,

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that sulfate can leach, you know, down lower in the soil profile out of the root zone.

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So that's a potential reason. And then the second thing that a lot of people don't necessarily understand and may take for granted is sulfur,

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02:33:40,000 --> 02:33:45,000

particularly sulfate can be reduced under flooded conditions to hydrogen sulfide,

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02:33:45,000 --> 02:33:52,000

which is actually what causes our hydrogen sulfide toxicity in many of our rice fields.

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02:33:52,000 --> 02:34:01,000

So if we have winter flooded or prolonged flooded conditions when we're not growing rice, those are two potential loss mechanisms for that.

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02:34:01,000 --> 02:34:07,000

Sulfur is leaching below the root zone and then the reduction of that sulfate to hydrogen sulfide,

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02:34:07,000 --> 02:34:11,000

which is then a gas, which is a loss from from the soil.

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02:34:11,000 --> 02:34:16,000

And so those are the two potential reasons why sulfur deficiencies would be

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02:34:16,000 --> 02:34:24,000

greater in areas that stay flooded longer outside of our rice production window.

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02:34:24,000 --> 02:34:31,000

Down this next one, Dr. Roberts, I'm I'm going to jump in on it, but stick with me if you want to chime in with some additional comments.

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Is Roe rice the best way to eliminate a salt problem? No.

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02:34:38,000 --> 02:34:47,000

Well, we have observed over the years past several is on situations where there is a history of salt problem,

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02:34:47,000 --> 02:34:50,000

particularly from from the irrigation water,

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02:34:50,000 --> 02:34:58,000

that the best thing we can do to get rice away from a salt problem is to get it to flood and get the flood on the field.

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02:34:58,000 --> 02:35:04,000

We have observed even in fields that didn't have a history of a salt problem in theory, shouldn't have hardly had any.

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02:35:04,000 --> 02:35:09,000

When we started stacking water up in the furrows, the tops of the beds,

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02:35:09,000 --> 02:35:15,000

that's where the salt began to wick out and die and kill and look like we had a plot, a burn herbicide.

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02:35:15,000 --> 02:35:22,000

But once the water standing water was removed from the furrows, they wasn't completely dead, came back to life and moved on.

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02:35:22,000 --> 02:35:31,000

So generally speaking, I would recommend avoiding irrigated rice where I believe I had a salt problem or the potential for one drink.

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Would you like to add anything? I would completely agree.

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02:35:35,000 --> 02:35:42,000

And I think even in moderate soil salinity issues or salty irrigation water issues,

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02:35:42,000 --> 02:35:51,000

bed configuration is going to play another major role in whether or not that problem becomes much worse or is manageable.

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02:35:51,000 --> 02:36:00,000

And so if you're in an area where you have marginal water quality or or are concerned and you want to try ro rice,

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02:36:00,000 --> 02:36:07,000

I would flat planet and pull water furrows rather than pulling beds just because

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02:36:07,000 --> 02:36:13,000

that bed configuration that AIDS and dictates where that salt concentrates.

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02:36:13,000 --> 02:36:19,000

And so those are some things to consider in addition to what Dr. Hartke mentioned.

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02:36:19,000 --> 02:36:24,000

Very good. Thank you. Here's a here's a general one thrown out.

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02:36:24,000 --> 02:36:38,000

Does anyone want to talk about BP s so that being delayed botto toxicity syndrome and that that is actually one that it is a multifaceted question,

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02:36:38,000 --> 02:36:46,000

probably easily myself. Dr. Butts and Dr. Bill Meishi all have some comments toward.

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02:36:46,000 --> 02:36:54,000

Again, mainly from what we know, what we're dealing with, with the white delight of toxicity syndrome or some delay by the toxic shock,

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02:36:54,000 --> 02:37:02,000

again, is the inability of our rice plants to deal with normally ride safe herbicides.

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02:37:02,000 --> 02:37:05,000

And essentially what's happening there is, again,

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02:37:05,000 --> 02:37:13,000

normally rice safe herbicides under an anaerobic condition or are ending up or there being be chlorinated.

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02:37:13,000 --> 02:37:17,000

They're anaerobic fungi that actually take the chlorine off of it.

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02:37:17,000 --> 02:37:21,000

And for whatever reason, that that portion of it is what keeps it rice safe.

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02:37:21,000 --> 02:37:28,000

And then when it's taken up by the rice, it's sick. So we usually recommend taking the flood off in that situation.

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02:37:28,000 --> 02:37:32,000

Yes, she. Tommy, do you like to comment? Dove in a little bit more on that one.

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02:37:32,000 --> 02:37:39,000

We saw a lot of it in in this past year. Yeah, let me go.

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02:37:39,000 --> 02:37:44,000

I'm good in identifying the symptoms.

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02:37:44,000 --> 02:37:52,000

And when you go to defend, what you see is they are shorter in size than the ones which are not affected.

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02:37:52,000 --> 02:37:59,000

And the other thing is the dealers break off very easily.

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02:37:59,000 --> 02:38:04,000

And also, there are some symptoms on the joints as well.

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02:38:04,000 --> 02:38:11,000

So maybe, you know, there might there might be some there's some tea left sort of growing from there.

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02:38:11,000 --> 02:38:22,000

The dealers. So removing the water for, like the drain and dry is one solution for it.

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02:38:22,000 --> 02:38:30,000

I would say that's the only solution. That's it. I was just going to add to, you know, and most of the field that I've looked at,

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02:38:30,000 --> 02:38:41,000

it's typically been a combination of like the perfect storm where it was Fassett, Bolero, propane, all the heavy hitters were all thrown at the field.

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02:38:41,000 --> 02:38:48,000

And then it was moisture. You know, the flood went on right away after, you know, like a pre flood application of all that or something.

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02:38:48,000 --> 02:38:49,000

And it just overloaded it all at once.

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02:38:49,000 --> 02:38:57,000

So it's if we can space some of those herbicides out or try not to overload those real heavy hitters that are that are bad for DPF,

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02:38:57,000 --> 02:39:03,000

that's can help us out a little bit, too, to not see such severe DPF symptomology.

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02:39:03,000 --> 02:39:11,000

Yes, Valero has been known to be the worst of the culprits for that proper, Neal, as you mentioned, is going to be in there.

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02:39:11,000 --> 02:39:15,000

Fassett isn't typically included. And again, there are a number of others.

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02:39:15,000 --> 02:39:19,000

But prate farther down the list than in severity.

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02:39:19,000 --> 02:39:25,000

But, yeah, we're we're stacking those, especially where we're standing them up immediately prior to applying,

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02:39:25,000 --> 02:39:33,000

but really seems to exaggerate where there's little more time or those those Harborside's are in different applications,

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02:39:33,000 --> 02:39:41,000

spread out Jerilyn lot weaker response. But the overlap areas of the fields are usually the turning to the sunken holes.

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02:39:41,000 --> 02:39:47,000

Where you get to act right out there becomes very obvious.

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02:39:47,000 --> 02:39:55,000

But while you're still at least up large on my screen is barcin grand good on blat set on rice blitz's.

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02:39:55,000 --> 02:39:59,000

Yes, this is easy answer. I like it. Yeah.

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02:39:59,000 --> 02:40:05,000

Bhaskaran debt for rice flat Sege right now crossed Arkansas because we have so much less resistance.

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02:40:05,000 --> 02:40:13,000

Bassa Grande, Popenoe and Loyn are our best three options, and Basker and I normally put towards the top of those three.

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02:40:13,000 --> 02:40:20,000

So in one more barely quake with some of your your your right discussion.

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02:40:20,000 --> 02:40:29,000

Sorry, my GPA work discussion. What about my bills that say 10 GPA in your research.

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02:40:29,000 --> 02:40:38,000

You're supposed to ignore that part of it. So it's a 10 GPA out of a plane is very, very, very difficult.

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02:40:38,000 --> 02:40:43,000

Let's just say that it requires a special set up. It's you have to narrow down.

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02:40:43,000 --> 02:40:51,000

It's you know, I don't like saying possible, but it really honestly is it's very, very difficult set up to get 10 g.p out of a plane.

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02:40:51,000 --> 02:40:57,000

So with any of my research there, I was trying to keep it as realistic as possible, doing three to seven,

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02:40:57,000 --> 02:41:01,000

because those are very common spray volumes that we're used, especially out of a survey.

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02:41:01,000 --> 02:41:07,000

I did that, that those were common responses of volumes getting used.

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02:41:07,000 --> 02:41:12,000

And so when it comes back to the label, all I can say is, you know,

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02:41:12,000 --> 02:41:17,000

have they really have catered to do the best they can to reach that label requirement? I can't say any more than that.

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02:41:17,000 --> 02:41:21,000

Yeah, I agree. Yes, she. One more for you.

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02:41:21,000 --> 02:41:31,000

What varieties have resistance to narrow brown leaf spot?

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02:41:31,000 --> 02:41:38,000

I have to look at the list, so I don't remember one day out outright in my mind now.

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02:41:38,000 --> 02:41:42,000

I don't either. The big take on there is not many.

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02:41:42,000 --> 02:41:49,000

Yeah. That the reaction cabinet, which we post usually and also interesting information.

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02:41:49,000 --> 02:41:58,000

[INAUDIBLE], you can find it over there. Very good.

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02:41:58,000 --> 02:42:03,000

A couple of questions about the the irrigated rice nitrogen trials.

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02:42:03,000 --> 02:42:11,000

So in those where we were discussing where Justin was discussing the the nitrogen rates applied and everything,

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02:42:11,000 --> 02:42:22,000

none of those included in additional nitrogen application at the light boot stage that we traditionally recommend on hybrid rice.

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02:42:22,000 --> 02:42:24,000

However, having said that,

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02:42:24,000 --> 02:42:34,000

with some other limited in addition to the work that we've continued looking at that light boot nitrogen application in flooded rice,

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02:42:34,000 --> 02:42:36,000

we have begun some preliminary work,

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02:42:36,000 --> 02:42:44,000

looking at the same thing in the brigaded system following some of those optimum recommended treatments we described.

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02:42:44,000 --> 02:42:53,000

And we're seeing the similar benefits of of an uptick in some head rice, a few bushels, a yield and some increased stand ability.

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02:42:53,000 --> 02:43:01,000

So that trend is still there. That was just another, I guess you'd say was another wrinkle.

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02:43:01,000 --> 02:43:10,000

We chose to not have in there looking at our early season nitrogen management for Justin's trials in that situation.

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02:43:10,000 --> 02:43:17,000

One moment. I think we're getting down to the very in the last few.

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02:43:17,000 --> 02:43:22,000

These are some fur gaited things are that may go kind of toward me.

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02:43:22,000 --> 02:43:26,000

If anybody has any remaining questions, go ahead and submit those now.

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02:43:26,000 --> 02:43:35,000

I'm going to try to knock out the few of these pretty rapidly. Does the DG sixty three l have a fit in row rice.

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02:43:35,000 --> 02:43:38,000

That is unknown for me as I haven't tested it in that format.

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02:43:38,000 --> 02:43:46,000

Based on its yield, potential and in general disease package and what it's look like from growth habit,

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02:43:46,000 --> 02:43:50,000

it looks like it could have a place to play there.

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02:43:50,000 --> 02:43:56,000

But again, not putting it in that system yet, myself doing my research.

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02:43:56,000 --> 02:44:03,000

I need to see it stand up to that stress before I'm going to recommend that also.

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02:44:03,000 --> 02:44:10,000

What about S.L 16 on PA irrigated rice compared to s.L l fifteen.

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02:44:10,000 --> 02:44:15,000

Those two have looked pretty similar in our limited testing to me.

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02:44:15,000 --> 02:44:22,000

Sealevel 16 is likely to turn out. You'll see l l 15 in most environments, but I'm not convinced.

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02:44:22,000 --> 02:44:30,000

Just off the twenty 20 data that we have comparing those two. That one is necessarily a great fit over the other.

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02:44:30,000 --> 02:44:38,000

Again, shallow slope, higher managed field. I think they're both potentially going to do a lot better in 16 I think is gonna be the winner.

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02:44:38,000 --> 02:44:44,000

But I'm prepared to see it this year on on a few more production acres and see where we go on that.

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02:44:44,000 --> 02:44:50,000

But it certainly didn't jump out in a little bit of testing that we did already.

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02:44:50,000 --> 02:45:00,000

Um. Okay. One moment.

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02:45:00,000 --> 02:45:06,000

OK. This goes back to the irrigation water management portion of Justin's talk, and I apologize.

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02:45:06,000 --> 02:45:10,000

He read he could not could not be here today, so I have to tackle it.

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02:45:10,000 --> 02:45:16,000

Did we water? The entire field is in all blocks at the same time or did we have several sets?

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02:45:16,000 --> 02:45:20,000

So keeping in mind those irrigation sets, those were very large blocks in fields.

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02:45:20,000 --> 02:45:29,000

So 20 plus furrows in each field and depending on which field it was in eight hundred to twelve hundred feet in length.

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02:45:29,000 --> 02:45:37,000

Then in all of the reps of those large block rich, raw, irrigated at the same time for whatever their irrigation trigger was.

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02:45:37,000 --> 02:45:43,000

So again, we had a very good representation there.

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02:45:43,000 --> 02:45:48,000

I think that about wraps up most of our questions for today.

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02:45:48,000 --> 02:45:58,000

One remaining one is on the breakdown of Seiyu hours, and I believe that's going to be shown again at the very end as soon as we conclude.

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02:45:58,000 --> 02:46:06,000

Just to give everyone a heads up on that. And, well, I guess I have one last one I'll throw at you, Tommy.

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02:46:06,000 --> 02:46:16,000

They just popped up. It's a good one. How do you get rid of Johnson grass in row rice?

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02:46:16,000 --> 02:46:25,000

Kevin Quinn answering quiz that quit asking these questions. So Johnson grass in in row rice.

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02:46:25,000 --> 02:46:31,000

Our best, you know it. And again, it's kind of we don't have a lot of data on it just because it's now it's a new weird weed.

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02:46:31,000 --> 02:46:40,000

But the best options are going to be a clincher or regiment, probably not on the shattered Cain side of things,

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02:46:40,000 --> 02:46:47,000

which is like a cousin to Johnson Grass Clincher has worked great for managing that.

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02:46:47,000 --> 02:46:57,000

But those those would be my two my two best options for managing it is either job clincher or regiment one of those two.

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02:46:57,000 --> 02:47:06,000

Very good. Somebody said, I haven't read about the production costs of farro versus flooded rice.

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02:47:06,000 --> 02:47:12,000

Any differences or about the site? What a great question.

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02:47:12,000 --> 02:47:19,000

You start telling me about where you are and what your equipment availability is, and it largely seems to go from there.

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02:47:19,000 --> 02:47:25,000

When we've tried to generalize a budget such as we did in the first grade rice handbook.

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02:47:25,000 --> 02:47:31,000

If you look back there, they come out very, very close in that scenario.

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02:47:31,000 --> 02:47:37,000

Again, kind of difficult to put a complete handle on because, again,

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02:47:37,000 --> 02:47:41,000

you may be able to get across acres that much faster or technically need less equipment.

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02:47:41,000 --> 02:47:49,000

But in the line item budget of trips across the field, things like that, it looks like it largely comes out pretty close.

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02:47:49,000 --> 02:47:56,000

And many are making similar yields to what their three year average is somewhere coming in about 10 bushels below.

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02:47:56,000 --> 02:48:00,000

But saving thrips in coming out pretty free even for them.

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02:48:00,000 --> 02:48:06,000

So that's that balance. Definitely a moving target for us when it comes to the farmer.

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02:48:06,000 --> 02:48:16,000

Gaited versus blooded big savings for many is when they can use the previous year's soybean bents and promote tillage from the system entirely.

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02:48:16,000 --> 02:48:20,000

Some will likely get to do that because of some of the dry harvest.

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02:48:20,000 --> 02:48:27,000

When we had this past year in the previous two years, that was not an option at all.

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02:48:27,000 --> 02:48:33,000

And so I think that's going to about wrap it up. We made it to three forty five.

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02:48:33,000 --> 02:48:36,000

So once more, I want to recognize the importance of the Rice checkoff program.

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02:48:36,000 --> 02:48:39,000

Again, that's part of what's even helping us answer questions here today.

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02:48:39,000 --> 02:48:47,000

Our work that we've done for that, if you ask question, we were able to get to please visit uaex.edu to learn more.

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02:48:47,000 --> 02:48:51,000

Thanks for joining us for the virtual rice production meeting.