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Welcome. We want to.

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I'm glad you're here for our two thousand twenty one marketing, new technology and irrigation production meeting that's online today.

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My name is Jerry Clements on the Delta district director for the University of Arkansas System Debate Division of Agriculture.

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And I'm your host. So we want to thank you for joining us for this two thousand and twenty one virtual version of our candy production meetings.

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We think we've got a great program put together for you today and we're ready to answer your questions as we go through the day.

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One thing we want to mention to you so is everybody remembers is that this meeting is being recorded.

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And if you need to come back and we'd like to watch it again or have people that ask you about watching it,

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this recording will be available from the same page that you are. Did you do registrational?

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Now, before we get started, I'd like to mention that today's program counts as 2.5 C use for certified crop advisors in Arkansas.

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Agriculture consultants say you use this session.

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Our soil water management will be one profession. Development will be one in integrative pest management.

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We'll be point five. We need you to remember for you to get full credit.

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You'll need to stay on here for the full event.

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At completion of all our online production meetings, I'll be the person that's going to submit your C use.

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For all the attendees who submitted your numbers.

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Now, if you've not turned in your number and you need credit, you need to contact me or send it to me at my email address,

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which is Jay Clements, j c l e m o n es at u.a.e x Doddy to you.

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If you have any other questions about that, let me know. But now remember, I'm not going to summit until next Tuesday at 4:00.

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So we'll be meeting. So it's going to take a little bit. We're pretty working on getting, um, put together now, so.

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But like I say it again, we'd like to welcome you to this. Today's event, which is the marketing new technologies and irrigation meeting.

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We're glad some of your back with us. And for those of you that are new.

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Welcome. And we're glad you're part of our production meeting system.

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Even though we know it's a little different than it has been in the past.

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Of course, you know, we do miss getting the chance to sit down with you face to face,

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having a chance for our specialist to to have that interaction with you.

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And of course, it's always a good time, good fellowship for us to have a opportunity for all of us to get together.

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Envisat Over a good meal when while we're listening to today, we've got five presentations to share with you.

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We're gonna go over updates from our extension specialist for each of these presentations.

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If we have time, we're going to take a question or two if they're there.

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If not, we're gonna keep moving through like we have in the last, you know, other meetings that we've had with you.

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So if you've got questions or a Q and A button, go ahead and make sure that you click on it.

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Put your question into it and we'll be glad to answer your questions when we can.

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But to get it started today, our first speaker is going to be our AG extension ag economist Scott Stiles,

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and he's going to give us an update on grain and cotton market outlook for twenty twenty one.

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Welcome, everyone, to the grain and cotton market outlook portion of our webinar today.

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I'm Scott Stiles, extension economist with the University of Arkansas.

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And I'd like to before we get into the market outlook, I like to remind you of coming deadline that you may.

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That may be of interest to you, it's regarding the ark and p.l.c. election decisions that you can make now each year.

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The farm bill for the for the remainder of the twenty eighteen farm bill, you can make its make changes to yard and p.l.c. elections.

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You don't have to do this, but. And if you don't, then there are Yarden p.l.c. elections or Maine, as it were in the prior year.

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But the deadline to do that is March 15th.

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And there are a number of decision aides out there probably familiar with Illinois and Texas A&M decision aides,

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but also mentioned a good decision, a from Kansas State University, that it may be of interest to you.

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That includes information for all states, all counties and and program commodities within the spreadsheet to all that they offer to go.

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If you do a search for Kansas State AG manager,

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once you get to that page friend or ag policy lankin and click on the drop down menu and select 2018 Farm Bill.

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And there's a nice nine minute tutorial video in their spreadsheet to let Robin Rade narrates,

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does a fantastic job explaining how the tool works and given an interesting comparison of of our and p.l.c. projected payments for the various crops.

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So I'd encourage you to take a look at it.

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And if you need any assistance with that information, know how to find these tools or use them, feel free to contact us and we'd be glad to help you.

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Again, you have the opportunity to update your art and p.l.c. elections each year.

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Now for the rest of the farm bill, the deadline to do that is March 15th.

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Looking at the projected payments that you'll receive this fall from the 2020 market a year,

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the current projected payments as of as of January or 65 cents for wheat, compared to ninety two since last year.

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No projected payments for corn, sorghum and soy beans, wheat at five and a quarter since long,

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grain rice unchanged from last year at 90 cents a bushel.

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Medium grain downs from a year ago at 76 cents a bushel and cotton at two point six cents per bushel.

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So Erra per pound. So these are again, these are projected 2020 payments that it will receive beginning this fall.

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So we may be, you know, among these that we may we may see the wheat wheat payment come down some as we

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get through the market in year wheat market and your hands may thirty first.

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And as we get progressively through the market year, these payment rates may change and we may see the wheat payment in particular come down.

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But these are preliminary. As of January, we may say some adjustments as we get through to get through the market.

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And, you know, the thing I'd bring it to your attention is we're in a price discovery period for the spring planting crops,

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which runs from January 15th to February 14th.

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The sales closing date for crop insurance for the spring planting crops is February 28.

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But we're in, you know, just a few days into the price discovery period.

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But the average prices so far are really good and at levels that we hadn't seen in some time as of January 20th,

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the average price for for soybeans is eleven, eighty six.

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When saying price of that has in 2013, back that year, the average price is 13,

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13, 05, corn at four fifty five, sorghum at 437, cotton at seventy eight cents.

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And long grain rice at twelve sixty. So fairly strong prices across the board.

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That'll give us good revenue guarantees. And again, you know where in early, early stages of the price discovery period that ends February 14th.

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So certainly encourage you to give crop insurance a look.

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So looking at the markets, just an overview for for everything we're seeing and for most most commodities anyway,

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some of the best prices that we've seen in some time since 2013,

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2014, and a lot of that's driven on just really strong export demand, particularly from China for a number of reasons, of course, is China's.

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Trying to make a good effort at fulfilling their obligations of the Phase one trade agreement, but also they're rebuilding hog numbers in country.

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And Corser, they're also facing some have domestic prices for four grains there that.

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And especially in the case of corn. But China, the number one export market for right now for U.S. corn, sorghum, soybeans and cotton.

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Weather has been challenging in a number of areas, particularly Argentina.

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But also, we saw some some weather difficulties across the Midwest last August that lowered the lower desires of the U.S. corn and soybean crops.

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And then commodities as a whole are attracting some speculative band interest.

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When you look at crude oil and corn, rice, wheat, soybeans, cotton,

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all have net long or the netback positions by the by the noncommercial speculators.

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So that's certainly been a price supported factor.

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Looking at soybeans and in particular, we think, you know, the recent rains there stabilize the crop.

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And in Brazil, the U.S. DEA has the Brazil production estimated at one hundred thirty three million metric tons.

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They've stuck with that estimate for four, five straight months.

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Now, one thing I would point out about the Brazilian crop is it will be harvested later than normal.

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It certainly was dry at the outset of their planting last fall and delayed delayed crops.

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So the crop will be we'll be coming off later than usual. And that is Kip Channa and arrested in our old crop, soybeans.

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They continue to buy our crop beans from us on the assumption that Brazilian crop will be coming off later.

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Weather has impacted Argentine crop more more so than than Brazil.

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Since October, the USDA has lowered the Argentine soybean production to one hundred and two

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million bushels and lowered Argentine corn production nany eight million bushels.

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So where? Where? There's certainly been a factor. No, not in Argentina production, U.S. ending stocks are at the lowest level since 2013.

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It's just one hundred and forty forty million bushels. No private estimates out of that number.

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Maybe getting a little bit smaller, depending on how much further export demand that the U.S. sees.

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But looking into 2021, strong prices are expected to pull acreage higher.

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And in twenty one common Pravit estimate at this point as as planet acreage,

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up to 90 million is coming up, seven seven million acres from from last year.

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But corn is certainly following along with soybeans and trying to compete for acres.

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But dysplastic situation is much tighter.

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And soybeans and soybeans, I think, is going to make the stronger, stronger bid for four acres going into the crop was one hundred projected.

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Hundred forty million carryovers, going to make the soybean market really weather sensitive.

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And course up or boundary over the projected price range there.

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And eleven to thirteen dollars certainly could be exceeded if you get some some weather difficulties this year on.

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Given the tight supply situation that we're that we're facing.

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So the market will be there.

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You could say well supported until it has some confidence that it knows what size crops are going to have.

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But even if you get it yet, consistent demand for soybeans year to year and a tree in yield.

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We may see some increase in ending stocks, maybe back to 160, 170 million bushels.

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But still, that's historically a very tight number.

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So we're looking for stocks to stay tied, even with a strong rebound in acreage.

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Again, it give you some historical perspective. Of course, the November contract tested twelve dollars recently.

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So you got to go. You look at this chart and you go all the way back to 2014.

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Since we've seen prices that have to.

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Twelve dollars seems to be a resistance point at this early stage in the contract.

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But again,

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this market is looking at the potential for ending stocks getting even tighter and

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offering the potential for prices to move higher as we get through the go through 2021.

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Corn stocks have tightened up quite a bit over the last several months.

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If you go back to May and June, the USDA at that time rejected corn in stocks at three point three billion bushels old a day.

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That number is one and one and a half billion through a combination of changes in the balance sheet.

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Since August, following the severe storm, it moved across the Midwest.

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The USDA trimmed off one point one billion bushels of production.

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And also since August, they've increased export estimates. Three hundred twenty five million bushels.

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So depending on why the Janick continues to bath our our corn, we may see that stocks tighten to tighten further,

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maybe getting down as low as one point three billion bushels. But the surprising thing is here, as is, normally Mexico is our top export market.

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Well, this year it's in the current marketing years, China, which is really unusual.

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But domestic prices for corn in China right now are 10 and eleven dollars a bushel.

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So even following this price rally in corn, U.S. prices are are very competitive and attracting a lot of a lot of buy an interest.

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One other thing I'd point out. We may see a Janna's import estimates increase over time.

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Currently, the USDA is at 17 and a half million metric tons. We may see that number.

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It's closer to 24 million metric tons. And as we get to get through the marketing year.

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A lot of attention on Brazil's crops. 70 percent of their corn production is the Fareena or second crop corn.

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So that'll be planted later than normal is year and exposing it to a bit more weather risk late in the season.

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And we expect the corn acres increase.

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The U.S. corn acres are expected increase in May.

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And one may and by most private estimates anyway.

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In 2021. But the extent that the acreage may increase will certainly be limited by my soybeans.

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But again, a trade deal and stable demand and corn will keep ending stocks in the one point six to one point seven billion bushel range.

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So the price that looks really favorable for the for the 21 crop,

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I would say that the fundamental situation that we have right now is very similar to 2013.

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And we had a and at least in Arkansas, the average producer prices to five toils that year.

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The US average producer price at 446. But the earlier harvest in in Arkansas, all the better bases gave us a better producer price.

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But as far as a range for the 21 crop, I'd put it at just this stage, based on the fundamentals as exist now,

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I'd say four seventy six to five, twenty six in the comfortable range that we might expect for the 21 corn crop.

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Give me some historical perspective.

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We didn't touch five dollars yet in the September contract, but we are at the highest levels that we've seen since 2014.

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So five dollars Reekie resistance for the September contract above that will be to 14 has around five 19 evolutional like in a rice course.

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We saw a big increase in acreage at 31 percent for long grain acres in 2020.

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The average yields were better, three point six bushels per acre improvement over twenty nineteen, and then production was up 36 percent.

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So even with the sharp increase in production,

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we're we're still see an after the adjustments in the January balance sheet was the ending stocks at a much more manageable level,

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around twenty six point three million hundredweight. If you go back to December.

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Balance sheet for long range or at that time, USDA is projected thirty eight point two million hundredweight,

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which would mean highs in stocks levels since going back to the mid 1980s.

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But USDA came in in January and made a huge 14 million hundredweight adjustment to domestic use.

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So that's record domestic use, record total use. And it pulled the carryover down twenty six point three million.

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That's the thing I would I would say there's a bit of a trend and USDA adjustments

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in exports right now they're at sixty six point sixty six million hundredweight.

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First, they've adjusted that lower for three straight months, but it's still above the 19.

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No. You know, the 1920 market in year 64, six, that you know, I'd say that, you know,

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that would be the one I would I would watch because the weekly the weekly export

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sales numbers today point to the lower long grain exports and the big lagger.

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There's militarize. It's running forty two percent and a year ago.

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But overall, long grain exports are down 17 percent year on year.

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So that that's something that I'd say that is a bit concerning in terms of demand.

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So we may see USDA lowered its export estimates in the upcoming months.

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But carrying out a comfortable supply of a sale of prices or for a new crop or above last year and got a boost from the January.

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It was do the close for the September contract on January, live with those 12 08.

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And then you got the big reduction and ending stocks.

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And that carried the market to recent had twelve sixty to say compares to Toilolo six a year ago.

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So you'd say, well you know, we may not see much change in Rice Baker's year to year,

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but the, the, the big change over over the past twelve months has been price of soybeans.

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So soybeans are going to be a fierce competitor for rice acres.

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And also, you know, we need to rerun our budgets with, you know, higher fuel for 2021, higher fertilizer.

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And see how that affects the comparative returns between rice and soybeans.

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Cotton got a friendly was the report.

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And in January, the USDA lowered the crop size for 20 U.S. crop size million bales, increased exports, 250000 bail.

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So now we've got a huge change in carryover, down to four point six, the lowest that we've seen since 2017.

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So that is that has provided a boost to the new crop December contract that trades around seventy nine cents today.

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So cotton really has gotten it, especially if it moves back into the moves to 80 and above.

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It'll really be in an acreage battle with corn and soybeans.

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Other thing I'd mention, too, is cotton. See, prices have followed along with other feedstuffs.

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So you see on cash, cotton see prices.

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Move to some level that we hadn't seen in a while of Memphis prices right now.

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Three hundred twenty dollars a time, we hadn't seen a price at ass in September 2014.

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So the revenue key revenue source for the jeans is certainly improving as well.

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But Cotton is getting some support from macro factors, follows closely with the equity markets.

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Economic stimulus has been a supportive to the cotton market as it's trying to add more how,

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you know, economic stimulus, get consumer spending out of the vaccine.

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The U.S. has been positive, weak dollar, certainly positive for all commodities that we export.

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00:26:21,000 --> 00:26:29,000

And in the higher crude makes the synthetic fibers more expensive. So those factors have been supportive to gotten prices as well.

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00:26:29,000 --> 00:26:39,000

So if you look at, you know, going back to the has that December contract made and in twenty eighteen.

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00:26:39,000 --> 00:26:48,000

Ninety four. Eighty two. And you follow that range down to the lows you made last spring of twenty twenty at fifty eighteen.

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00:26:48,000 --> 00:26:59,000

The markets retraced two of the key retracement objectives so far, 50 and the 62 percent retracement.

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00:26:59,000 --> 00:27:05,000

And now you're seeing if especially if the grain prices continue to rally,

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00:27:05,000 --> 00:27:12,000

may you have a number of people talking about December cotton moving into the to the mid 80s in area.

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00:27:12,000 --> 00:27:20,000

So the next retracement objective that we might look at is the 78 percent retracement at eighty five.

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00:27:20,000 --> 00:27:25,000

Twenty seven. So that's not out of the question.

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00:27:25,000 --> 00:27:34,000

If if especially if we continue to see, you know, the noncommercial interest of the speculative funds,

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00:27:34,000 --> 00:27:41,000

continue to pour money into commodities and also lift corn and soybean prices,

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00:27:41,000 --> 00:27:49,000

we may continue to see cotton follow, follow along and move into to the mid 80s when in sync with the with the major grain.

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00:27:49,000 --> 00:27:52,000

So. This some final thoughts,

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00:27:52,000 --> 00:27:57,000

I'd say that the current commodity price environment thing eliminates the

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00:27:57,000 --> 00:28:01,000

likelihood of these ad hoc payments that we've seen the last couple of years,

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00:28:01,000 --> 00:28:10,000

such as MF B and C, C, Farve. So I wouldn't use the historical payments from those ad hoc programs.

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00:28:10,000 --> 00:28:19,000

In my twenty twenty one cash flows, also, the higher commodity prices are going to mean less from the far Bayle safety net programs like Archon p.l.c.

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00:28:19,000 --> 00:28:31,000

So this is going to put a lot of pressure on a producer to make good marketing decisions and also manages input costs,

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00:28:31,000 --> 00:28:39,000

usually in sharply higher energy and fertilizer costs, especially since last November.

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00:28:39,000 --> 00:28:43,000

But looking at a year to year comparison of crude oil,

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00:28:43,000 --> 00:28:54,000

the Energy Department's projected forty nine 70 a barrel average in 2021 compared to thirty nine seventeen large in 2020.

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00:28:54,000 --> 00:28:59,000

And of course, on this grain price surge,

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00:28:59,000 --> 00:29:04,000

you're also seeing higher fertilizer prices and fertilizer prices overall are at 35

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00:29:04,000 --> 00:29:11,000

percent since last June and and with a 15 percent rise in the last quarter at 2020.

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00:29:11,000 --> 00:29:20,000

So as you market, your crops sell.

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00:29:20,000 --> 00:29:26,000

Also, some of your production also make sure you lock it in your input costs.

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00:29:26,000 --> 00:29:32,000

Now was the big lesson that we learned the hard way in 2007, 2014 as well.

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00:29:32,000 --> 00:29:41,000

When we were selling our crop, it what we thought was a good price. And a lot of cases we weren't locking in our input cost.

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00:29:41,000 --> 00:29:49,000

And and as we sold our crop, we continue to see. Crude oil surged to record highs in 2008.

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00:29:49,000 --> 00:29:55,000

One hundred and forty seven dollars a barrel and diesel went to four dollars a gallon.

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00:29:55,000 --> 00:30:00,000

And so that. So commodities as a group, you know, are moving in sync.

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00:30:00,000 --> 00:30:07,000

And and so when you sell some of your grout, make sure that you're also locking down your your input, Carlston,

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00:30:07,000 --> 00:30:15,000

and that that makes your marketing much more effective if you've if you've got your your your costs locked in and as

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00:30:15,000 --> 00:30:21,000

you as you sell some of your some of your production because they're all as commodities group or move in together.

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00:30:21,000 --> 00:30:29,000

That mentioned update your your bookmarks. Arkansas Rockhouse blog is a new address this year.

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00:30:29,000 --> 00:30:34,000

And everything I'm discussing today is as of a point in time.

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00:30:34,000 --> 00:30:42,000

January 21st. So as as we go through the year and we're.

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00:30:42,000 --> 00:30:50,000

You know that information changes, we're providing updates on the Rockhouse blogs that encourage you to subscribe to the updates of that.

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00:30:50,000 --> 00:30:57,000

And keep Colonel Market advance and other things and policy and things of that nature.

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00:30:57,000 --> 00:31:05,000

Crop insurance is another thing. Well, check our farm planning resources page for updates and in fact,

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00:31:05,000 --> 00:31:11,000

sheets that we we put out the estimate and farm machinery costs has been updated recently.

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00:31:11,000 --> 00:31:19,000

It's of interest to a number of you. So with that, I'll close in on behalf of the University Arkansas Division of AG.

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00:31:19,000 --> 00:31:24,000

Wish you a healthy and profitable and prosperous 2021.

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00:31:24,000 --> 00:31:31,000

Thank you very much. Thank you, Scott. I would like to remind all of you again now, if you have questions,

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00:31:31,000 --> 00:31:38,000

there is the Q&A box there on your should be on your screen where you can click onto it and add your questions to it.

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00:31:38,000 --> 00:31:44,000

And at the end of the day, we'll go through those and give them a chance to answer all of those for you.

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00:31:44,000 --> 00:31:49,000

But what we're going to do now is we're gonna go ahead and we're going to continue on.

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00:31:49,000 --> 00:31:58,000

And we actually have a little presentation right now from B.A. Reanna Watkins, another one of our extension ag economist instructors.

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00:31:58,000 --> 00:32:05,000

So here you go. Good afternoon.

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00:32:05,000 --> 00:32:13,000

My name's Brenda Watkins. I'm an instructor with a corporate citizen service, and my focus is mainly on crop budgets and conservation.

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Today, I want to focus more on the crop budget side.

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We're going to focus on utilizing the crop budgets, mainly where to find them, how to find them and how to use them once you have failed them.

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We haven't been to our ext web website before. Highly encourage you to look around.

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00:32:32,000 --> 00:32:39,000

There's a lot of available sources, resources available here at UAI E, X, dot 80.

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00:32:39,000 --> 00:32:46,000

You are utilize. You can see the first area on the top right corner there and you lost that search engine.

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00:32:46,000 --> 00:32:50,000

Am I useful for the crop? Budgets are simply top in print budgets.

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00:32:50,000 --> 00:32:55,000

This brings me to the list. They'll contain kindlier search results of your keywords.

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00:32:55,000 --> 00:33:03,000

You can also search things like rice, soybeans, irrigation, and I'll give you a conglomerate of those keywords.

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00:33:03,000 --> 00:33:11,000

I also have noted over your tool left this farm and ranch that actually provides a lot of great tools for producers.

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00:33:11,000 --> 00:33:16,000

And I encourage you just to select a look around and see what's available there.

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00:33:16,000 --> 00:33:23,000

But for today, we selected crop budget. So once you've hit the search button,

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00:33:23,000 --> 00:33:33,000

this is what appears and you'll see that I've circled here the crop error plus budget page that's going to get to the actual budget falls.

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00:33:33,000 --> 00:33:39,000

Went to selected the first link, the Arkansas Field Crop Enterprise budget page will then appear.

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This is where you can find all 53 available crop budgets that are categorized by seed technology and irrigation to.

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On the left here, you'll see the list of the enterprise budgets available.

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These include the failed crop budgets that I'm discussing today, the livestock budgets, as well as some specialty crop budgets.

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I'm also shown on here the farm planning website. I've circled it this.

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I'm going to venture off the budget page for a minute to show this Web site because of.

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00:34:10,000 --> 00:34:13,000

On this Web site, the forum planning resources,

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00:34:13,000 --> 00:34:19,000

you'll see under the publication several useful publications, but most importantly, I wanted to note this.

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00:34:19,000 --> 00:34:26,000

The machine farm machinery costs. This is a publication that's got Stiles and Dr. Stark could create it.

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00:34:26,000 --> 00:34:33,000

And I feel it's a great tool for quick estimates whenever you're looking at custom work done.

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Now, I want to go back to the budget page you'll see in the circle where there's a minus sign for any of the budgets.

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00:34:40,000 --> 00:34:49,000

You can select the pluses and they'll turn to minuses, which provide the dropdown of the available resources for each crop.

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You'll see this is cotton B two X F, the first three listed are the three Excel files, federal irrigation, pivot, irrigation and non irrigated.

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00:35:01,000 --> 00:35:10,000

The next three files are the ifs, the PDA, FS are the old manuscript files.

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00:35:10,000 --> 00:35:23,000

This is an example of what the manuscript PDAF looks like. It's a black and white printable version of any budget file that has been created.

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00:35:23,000 --> 00:35:35,000

Next, you're going to see. This is a actual screenshot of one of the Excel files at the bottom are what I call tabs within the Excel file.

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00:35:35,000 --> 00:35:40,000

This is kind of how you navigate the budget program and how it's designed to.

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00:35:40,000 --> 00:35:49,000

So you can use your own input for cost and for machine or use, etc.

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To the left. The next tab over is what is called the field activities tab.

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00:35:56,000 --> 00:36:05,000

This gives details as to how the budget is actually developed. For example, this one I'm showing is for the twenty twenty one.

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00:36:05,000 --> 00:36:09,000

Liberty Link G.T. Twenty seven Verratti soybean seed.

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00:36:09,000 --> 00:36:12,000

That's a fertile irrigated field.

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00:36:12,000 --> 00:36:19,000

All the field activities are based upon recommendations that have been given to me from agronomists, the wheat specialists,

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00:36:19,000 --> 00:36:28,000

entomologist, plant pathologist, crop specialists, several just within the Cooperative Extension Service.

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00:36:28,000 --> 00:36:34,000

The next tab that I would look at would be the budget tab, and you could kind of see it at the bottom there.

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00:36:34,000 --> 00:36:43,000

The budget tab allows for changes anywhere, but mainly I would focus on the white cells as these are most common, commonly used.

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00:36:43,000 --> 00:36:53,000

In the middle there, you'll see one hundred percent. This is where you can change the percent from to a scenario of a rental situation.

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00:36:53,000 --> 00:37:00,000

You'll notice two on here, the fertilizers, herbicides and nutrients are all in red.

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00:37:00,000 --> 00:37:06,000

This is because they actually have separate tabs that calculate back here on this main budget tab.

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00:37:06,000 --> 00:37:10,000

For instance, they're Tab's that are turtled fertilizer, seed and chemical.

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00:37:10,000 --> 00:37:19,000

You can see to the rest of the budget tab. The two arrows on the right here show, the two calculate break, even price and yield bends.

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These are just macros that can give you a break, even price or break even yield based upon the budget data.

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Once on the budget page, if you scroll down at the bottom here, that's where everything is tabulate.

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00:37:32,000 --> 00:37:39,000

It gives the estimate total expenses, net returns, everything for the budget program.

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00:37:39,000 --> 00:37:49,000

Next stop to the right. It's labeled fertilizer. This gives a breakdown of the max nutrients as nutrients and purses that are used for the program.

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I've noted over here to the right. This orange and it's circled is where you place nitrogen.

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This actually calculates from this area back into the left side,

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00:38:00,000 --> 00:38:05,000

there were all the other nutrients or place all the other nutrients or calculate on the left side.

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00:38:05,000 --> 00:38:08,000

Nitrogen is just a little bit weird. So that's the reason why it's on the right side.

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00:38:08,000 --> 00:38:14,000

There. Immediately below the circled area, you'll see this arrow.

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00:38:14,000 --> 00:38:19,000

I have this shows an area where I would typically just put the prices.

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For instance, if I planned a cover crop, I just put in the price in the quiet per acre.

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00:38:24,000 --> 00:38:31,000

And this will be tabulate back into your budget for you. The next part down is the herbicide detail.

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If you kept on scrolling down, you see it has insecticide. There's fungicide also on there.

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00:38:37,000 --> 00:38:43,000

You just can't see it on the screen. These can be change the amounts, the types, whatever you would like from here.

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00:38:43,000 --> 00:38:52,000

This just gives the basis of how we developed our budgets. But feel free to change whatever you would like.

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00:38:52,000 --> 00:39:02,000

The next tab is the irrigation tab. Irrigation, for the most part, in the green areas where you'd want to stay.

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00:39:02,000 --> 00:39:09,000

You can change the irrigation type from farro to pivot to or if there's none, no irrigated.

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00:39:09,000 --> 00:39:13,000

The pump power top as well. So for diesel or electric.

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00:39:13,000 --> 00:39:18,000

And you can also go in and change your fuel prices because fuel prices tend to change a lot.

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00:39:18,000 --> 00:39:22,000

And so that's where you can enter that in there. And also down towards.

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00:39:22,000 --> 00:39:32,000

If you're looking at rice and all more of the levy, if they're straight meandering, there's a source for that as well.

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The final tab we're going to talk about is the machine tab.

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This is where any equipment that is taken across the field is tabulating calculate for the budget program.

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00:39:42,000 --> 00:39:45,000

If there's some equipment use that you don't see listed here,

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00:39:45,000 --> 00:39:52,000

feel free to contact me and I can help you get it out of it so that you can utilize this.

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For instance, I have here circled this the most important part that I would focus on this number of trips.

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So that's the number of trips across the field. So for the distance safe, you're in a no till situation.

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00:40:04,000 --> 00:40:10,000

You can put a zero in the number of trips across the field or if you're double cutting or something,

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00:40:10,000 --> 00:40:18,000

you can put in a tube or if you're doing a spring in a fall or however that's where mentally you'll be changing.

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00:40:18,000 --> 00:40:20,000

And you can also go in and to the right,

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00:40:20,000 --> 00:40:29,000

the power unit details basically the size of tractor that is being used to pull the equipment across the field or the implement across the field.

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00:40:29,000 --> 00:40:39,000

Above that, you can see the number of rows, the rows spacing. You can also change this to fit whatever you would like.

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The final part I'm going to talk about are the budget summaries,

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these provide a way to compare cross crops and they allow users to input yield, price, whatever white.

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All the white cells are locked on that. This will then again, Calcutt recalculate within that program.

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00:40:58,000 --> 00:41:09,000

And so it allows you to compare the crops that are listed in each field and you can based upon your own price and yield expectations.

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Again, this is for no irrigation, no irrigated allows for comparison with wheat.

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00:41:17,000 --> 00:41:25,000

So find the budget summaries. They're actually at the top listed first where I have that circle, if you click on the plus side, it will give you.

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Drop down. Drop down of the available budget summaries for the year.

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00:41:31,000 --> 00:41:39,000

And last but not least, I want to say thank you. Thank you for your time and your patience and mainly thank you to the commodity boards,

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00:41:39,000 --> 00:41:48,000

corn and grains of rice and the soybean boards, because without your continual support, this budget program wouldn't be possible.

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00:41:48,000 --> 00:41:52,000

Please feel free to contact me if you need help or you have any questions at all.

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00:41:52,000 --> 00:41:57,000

My contact information is there on the screen and I believe you'll be given these slides as well.

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00:41:57,000 --> 00:42:01,000

Thank you. Well, thank you, Brianna.

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00:42:01,000 --> 00:42:09,000

We're very, very good. Talk about the budget apps that we have are useful for our producers.

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00:42:09,000 --> 00:42:14,000

Now, we're going to change gears a little bit and get more a little bit into different

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00:42:14,000 --> 00:42:19,000

kind of technology that some of the sprayer technology that Jason Davis,

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00:42:19,000 --> 00:42:24,000

who's our expense extinction spray technologist, is going to present to us.

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00:42:24,000 --> 00:42:28,000

So if we're ready, we'll go ahead and we're going to start it.

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00:42:28,000 --> 00:42:35,000

Here we go. Jason Davis in for the next few minutes.

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00:42:35,000 --> 00:42:39,000

I'd like to touch on some of the most common questions that I receive across spray

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technologies and in Arkansas and some limitations that we should be aware of.

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Available spray technologies really do continue to evolve.

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00:42:48,000 --> 00:42:57,000

Our increases in productivity demands have ultimately produced the specialized equipment that we see in the field today.

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00:42:57,000 --> 00:43:05,000

However, regardless of the equipment complexity. Much of our application success really hinges on this formula, which you probably recognize.

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00:43:05,000 --> 00:43:14,000

And it's just a simple mathematical depiction of how application decisions that we make prior to going into the field impact our applications outcome.

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00:43:14,000 --> 00:43:22,000

We use this formula to size nozzles and traditional calibration. It informs rate controllers and even our pulse with modulated computers.

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00:43:22,000 --> 00:43:29,000

In each case, nozzle flow right, measured in gallons per minute is manipulated with or in response to equipment speed changes.

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00:43:29,000 --> 00:43:38,000

Measured in miles per hour, these manipulations ensure that uniform volume of our solution is applied, reported here in gallons.

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00:43:38,000 --> 00:43:45,000

Breaker one of the simplest sprayer tops is that of constant pressure and speed sprayers where

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00:43:45,000 --> 00:43:50,000

speed is selected and a calibration procedure and held constant throughout an application.

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00:43:50,000 --> 00:43:54,000

Best as possible and flow is regulated by nozzle selection.

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00:43:54,000 --> 00:44:01,000

The R.P.M. of the pump and often a static bypass valve that also is set during a calibration procedure.

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00:44:01,000 --> 00:44:04,000

Ball equipment speed can be kept constant in theory.

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00:44:04,000 --> 00:44:12,000

Most applicators would agree that this is difficult, especially as terrain varies and speed increases.

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00:44:12,000 --> 00:44:18,000

Hence the major limitation of these systems, which is any fluctuations in equipment speed.

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00:44:18,000 --> 00:44:26,000

Taking a look at our application formula, it's easy to see that as speed increase, the amount of applied product is reduced.

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These systems rely solely on variable consistency.

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00:44:29,000 --> 00:44:36,000

Once calibrated damage and repairs to boom sections, that changes the nozzle spacing plugged or warm nozzles.

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00:44:36,000 --> 00:44:43,000

And in this case, just fluctuating equipment, speed all have dramatic influences on application uniformity.

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00:44:43,000 --> 00:44:49,000

This is a screenshot of a coverage map from a demonstration we conducted this summer in a small field at one of our stations.

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00:44:49,000 --> 00:44:54,000

This is what an applicator may see leaving a field after an application is made.

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00:44:54,000 --> 00:44:59,000

Aside from the excessive overlap, you may feel pretty good about leaving the field if this is all you see.

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00:44:59,000 --> 00:45:05,000

However, the exact same application but mapped by speed tells a different story.

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00:45:05,000 --> 00:45:10,000

The large fluctuations in volume applied become evident in the transitions from green,

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00:45:10,000 --> 00:45:17,000

yellow and red indicated, indicating over and under applications depending on the calibrating equipment speed.

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00:45:17,000 --> 00:45:24,000

This type of equipment is increasingly less common in production systems because of the lack of flexibility in equipment speed.

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00:45:24,000 --> 00:45:32,000

They are far more common in Arkansas pastures or forge management, specialty crops or ATV and side by side mounted sprayers for yards and turf.

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00:45:32,000 --> 00:45:37,000

With these limitations, how do you get these systems right and ensure proper applications,

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00:45:37,000 --> 00:45:45,000

accurate calibration and then hold all set variables constant measure your gallons per minute flow rate nozzle spacing

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00:45:45,000 --> 00:45:52,000

and speed accurately or as close to expected field conditions as possible to determine your gallons per acre output.

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00:45:52,000 --> 00:46:01,000

Contact your local county extension office for assistance and calibration tools, as well as guides on how how to calibrate your specific equipment.

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00:46:01,000 --> 00:46:06,000

Schoen is an example publication that you can receive from your local county extension

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00:46:06,000 --> 00:46:11,000

office that walks through some simple calibration procedures and once calibrated,

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00:46:11,000 --> 00:46:15,000

be sure to adhere to all calibration settings.

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00:46:15,000 --> 00:46:22,000

Addressing some of these limitations and far more common in Arkansas, real crop production is automatic rate controlled sprayers,

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00:46:22,000 --> 00:46:26,000

which dynamically adjust flow rates in response to any fluctuations in equipment.

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00:46:26,000 --> 00:46:34,000

Speed rate controlled sprayers measure equipment, speed through wheel mounted sensors, radar or most commonly through G.P.S. receivers.

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00:46:34,000 --> 00:46:38,000

Product flow to the boom is measured from an inland flow meter nozzle.

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00:46:38,000 --> 00:46:44,000

Spacing speed from the sensor and flow rate from the meters are used as inputs

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00:46:44,000 --> 00:46:48,000

into our application formula that is programed into any right controller.

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00:46:48,000 --> 00:46:53,000

Electronic flow control valves are used to make adjustments as speed changes.

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00:46:53,000 --> 00:47:01,000

Watch this play out in our formula. You can see how, as speed changes, the computer recognizes a drop in the application rate.

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00:47:01,000 --> 00:47:08,000

Adjust the flow valve until the values from the flow meter rise and are proportional with the equipment speed to hold.

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00:47:08,000 --> 00:47:12,000

Target application rate constant.

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00:47:12,000 --> 00:47:18,000

Rate control sprayers have allowed for greater infield flexibility and have accommodated dramatic increases in equipment speeds.

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00:47:18,000 --> 00:47:24,000

However, these systems are not without limitations. System flow rate is measured and adjusted,

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00:47:24,000 --> 00:47:29,000

but errors can be present between nozzles that go undetected as a demonstration shown

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00:47:29,000 --> 00:47:34,000

as a great controlled sprayer with catch containers mounted on individual nozzles.

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00:47:34,000 --> 00:47:40,000

This sprayer was driven across a field and the rate controller was allowed to make adjustments, as it's designed to do.

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00:47:40,000 --> 00:47:43,000

As reported by the field computer, it did a pretty good job.

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00:47:43,000 --> 00:47:51,000

The targeted rate of 10 gallons per acre shown on the bottom right is realized in the applied rate box on the left side,

389

00:47:51,000 --> 00:47:54,000

also showing 10 gown's breaker.

390

00:47:54,000 --> 00:48:02,000

However, upon closer inspection of the catch cans, you can see that the computer wasn't really telling the whole story from left to right.

391

00:48:02,000 --> 00:48:07,000

You can see that we had a plug nozzle and three of varying volumes averaged.

392

00:48:07,000 --> 00:48:13,000

The computer sees no problem. But we as applicators know better.

393

00:48:13,000 --> 00:48:18,000

This can easily be remedied. It really goes without saying, but simple nozzle maintenance,

394

00:48:18,000 --> 00:48:24,000

regular cleaning of systems and nozzle strainers and tips can help reduce plugged in restricted nozzles.

395

00:48:24,000 --> 00:48:32,000

checking your nozzles for wear is a simple and important mine maintenance procedure that reduces these errors to check your nozzles first,

396

00:48:32,000 --> 00:48:44,000

determine the design or expected flow rate. This is the last two digits stamped on any nozzle shown or an oh two oh three an oh four nozzle.

397

00:48:44,000 --> 00:48:51,000

These sizes indicated nozzles flow rates in tenths of a gallons per minute at 40 PSR.

398

00:48:51,000 --> 00:48:58,000

So two tenths, three tenths and four tenth respectively of a gallons per minute at 40 PSR.

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00:48:58,000 --> 00:49:05,000

Once you know what your nozzles flow rate should be, measure it at 40 PSR to determine how close it actually is.

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00:49:05,000 --> 00:49:14,000

It's very important to accurately measure flow readings and to determine the pressure at or very near the nozzle being tested.

401

00:49:14,000 --> 00:49:18,000

Your local can extension office is a great resource for testing nozzles.

402

00:49:18,000 --> 00:49:28,000

Each office has the tools shown to take accurate readings and can make quick determinations about the conditions of most nozzles.

403

00:49:28,000 --> 00:49:38,000

A general rule of thumb is to replace any nozzles that are worn and applying 10 percent over their design flow again at that 40 PSR.

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00:49:38,000 --> 00:49:45,000

The examples shown a shows a number five nozzle. So a half a gallon per minute would be expected.

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00:49:45,000 --> 00:49:50,000

As you can see, the nozzles are measuring hot, 10 percent elevated flow.

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00:49:50,000 --> 00:49:55,000

In this case would be zero point five five gallons per minute.

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00:49:55,000 --> 00:50:01,000

So two of these nozzles need to be replace, practically speaking, with so many elevated values.

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00:50:01,000 --> 00:50:09,000

One might consider replacing the entire set as opposed to mixing new and old nozzles on a sprayer.

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00:50:09,000 --> 00:50:13,000

In addition to flow discrepencies caused by a lack of nozzle maintenance coverage,

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00:50:13,000 --> 00:50:22,000

inconsistencies can arise from pressure variations caused by speed fluctuations, while rate controllers generally do well at holding a plot rate.

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00:50:22,000 --> 00:50:27,000

This is often at the cost of major variations in system pressure with rate controlled sprayers.

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00:50:27,000 --> 00:50:34,000

This coverage map is accurate and porting applied rate. However, the speed map with rate controlled sprayers essentially represents a pressure map,

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00:50:34,000 --> 00:50:40,000

and changes in pressure can create dramatic changes in droplet sizes produced by most nozzles.

414

00:50:40,000 --> 00:50:45,000

In this demonstration, fluctuating from coarse to ultra coarse,

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00:50:45,000 --> 00:50:53,000

nozzles are typically sized based on anticipated equipment speed and rarely account for actual speed ranges within a field.

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00:50:53,000 --> 00:51:04,000

As an example, this tienes yet a R is soz for 10 gallons per acre work at 15 miles an hour, comfortably within the course droplet spectrum.

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00:51:04,000 --> 00:51:09,000

However, most applications will require the equipment speed to fluctuate in term rose while

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00:51:09,000 --> 00:51:15,000

accelerating or decelerating on passes or because of irregular field conditions.

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00:51:15,000 --> 00:51:22,000

The differences in coverage may or may not impact and applications efficacy depending on the applications target,

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00:51:22,000 --> 00:51:26,000

pastie, pesticide used, volume applied and other application variables.

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00:51:26,000 --> 00:51:32,000

It's just worth noting that these variations exist and should be considered when sizing Knossos.

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00:51:32,000 --> 00:51:43,000

A more extreme example. This Teej it ttr nozzle is similarly sized at fifteen miles per hour and 10 gallons break or work.

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00:51:43,000 --> 00:51:48,000

Based on the TJX catalog, this should produce an extremely coarse pattern.

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00:51:48,000 --> 00:51:53,000

However, in areas of the field where equipment speed is at or below eight miles an hour,

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00:51:53,000 --> 00:52:00,000

pressure drops below 20 PSR and the nozzles pattern nearly collapses as an applicator.

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00:52:00,000 --> 00:52:08,000

This needs to be taken into consideration to prevent poor product efficacy simply due to a lack of speed, pressure and reduction of coverage.

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00:52:08,000 --> 00:52:14,000

In these situations, building on the flow control of automatic rate controlled sprayers,

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00:52:14,000 --> 00:52:20,000

pulse with modulated systems, similarly adjust a plod rate as equipment speed changes.

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00:52:20,000 --> 00:52:22,000

However, this is done independent of pressure,

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00:52:22,000 --> 00:52:30,000

minimizing coverage variations caused by changes in the droplet spectrum using high speed solenoids on each tip.

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00:52:30,000 --> 00:52:38,000

In addition to the systems flow control valves, nozzles are pulsed commonly at 10 times per second within each pulse.

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00:52:38,000 --> 00:52:46,000

Solenoids are held open fully for a period of time, proportional to the tribal speed of the equipment.

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00:52:46,000 --> 00:52:55,000

This allows for the nozzles flow rate to be adjusted at the nozzle while holding pressure constant, including droplet size and therefore coverage.

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00:52:55,000 --> 00:53:02,000

As an example, this Wilga Imar one Tenno six is soz for 10 gallons per acre work.

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00:53:02,000 --> 00:53:10,000

But unlike rate controlled systems, it can be used in field conditions from five to 19 miles per hour by adjusting the systems

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00:53:10,000 --> 00:53:16,000

duty cycle from 25 percent on per second to fully on with minimal changes in pressure.

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00:53:16,000 --> 00:53:21,000

Each nozzle is set to maintain 100 percent overlap with adjacent nozzles,

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00:53:21,000 --> 00:53:26,000

and every other nozzle is pulsed together, ensuring there are no skips in coverage.

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00:53:26,000 --> 00:53:33,000

Our coverage map now not only accurately represents where we have sprayed as in constant pressure and speed sprayers,

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00:53:33,000 --> 00:53:41,000

the volume applied is in rate controlled sprayers, but also can loosely represent pressure and droplet size map for our application.

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00:53:41,000 --> 00:53:48,000

Currently, Capstan, Raven and Teej at all offer different levels of PTB in spray technology,

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00:53:48,000 --> 00:53:53,000

with capstan and ravens' systems being far more commonly found in Arkansas.

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00:53:53,000 --> 00:54:00,000

Some versions even offering individual nozzle control, with each nozzle being treated as a separate section.

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00:54:00,000 --> 00:54:07,000

Flow can be regulated based on a speed on the speed of individual nozzles, which varies greatly if spraying while turning.

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00:54:07,000 --> 00:54:10,000

Additionally, in the case of partial overlap with the previous pass,

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00:54:10,000 --> 00:54:16,000

individual nozzles can be shut off instead of requiring an entire section to be overlapping.

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00:54:16,000 --> 00:54:23,000

It's also worth mentioning that PWI systems are sometimes mistakenly thought of as drift reduction technology.

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00:54:23,000 --> 00:54:27,000

Pulsing nozzles do not inherently decrease drift potential.

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00:54:27,000 --> 00:54:33,000

However, the ability to select an appropriate nozzle and hold it at a desired pressure throughout an application,

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00:54:33,000 --> 00:54:39,000

regardless of equipment, speed does provides a significant level of control to the applicator.

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00:54:39,000 --> 00:54:47,000

If this control is used in the context of drift mitigation, PWI systems apply those selections uniformly.

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00:54:47,000 --> 00:54:53,000

The same would be true for nozzles and pressure. Selection are made instead in the context of maximizing coverage.

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00:54:53,000 --> 00:55:03,000

Therefore, proper nozzle and pressure selections to meet applications goals is just as critical in PWI in sprayers.

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00:55:03,000 --> 00:55:11,000

Additionally, it's worth noting that GWM systems are generally not considered compatible with a R or air induction style nozzles.

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00:55:11,000 --> 00:55:19,000

That the constant interruption in restarting of flow through a nozzle causes pour pattern development and often a spitting effect from the bean,

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00:55:19,000 --> 00:55:25,000

she reports in a nozzles. While this is a limitation of PWI systems,

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00:55:25,000 --> 00:55:31,000

there are plenty of appropriate non air induction top nozzles available that are compatible with these sprayers.

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00:55:31,000 --> 00:55:39,000

A slightly different approach to rate and droplet control is represented by Topo's dual react and John Deere's exact apply.

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00:55:39,000 --> 00:55:47,000

These systems use pairs of nozzles of staggering flow rate together that are matched with similar droplet spectrums at low speeds.

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00:55:47,000 --> 00:55:52,000

The lower flow rate nozzle represented here by Nozzle A is turned on and used with a typical

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00:55:52,000 --> 00:55:58,000

rate controlled system to maintain desired flow by adjusting pressure as speeds increase,

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00:55:58,000 --> 00:56:03,000

nozzle is turned off and nozzle be a higher flow rate nozzle is engaged.

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00:56:03,000 --> 00:56:12,000

As feed is further increased, nozzle is reengaged in both nozzles are controlled by the right controller to hold rate nozzles are selected and

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00:56:12,000 --> 00:56:20,000

engaged in a way to minimize pressure and droplet variability as the systems cycle through nozzle combinations.

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00:56:20,000 --> 00:56:27,000

Additionally, exact apply is paedo. Be incapable, which smooths the pressure fluctuations between nozzles.

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00:56:27,000 --> 00:56:36,000

Individual nozzles are each pulse at fifteen hertz or fifteen times per second from constant speed and pressure sprayers.

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00:56:36,000 --> 00:56:42,000

Right controllers, PDV EM systems. So what's next one emerging?

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00:56:42,000 --> 00:56:47,000

Algae is that of sprayers that can detect and spray vegetation on the go.

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00:56:47,000 --> 00:56:53,000

We did. It is an example of one such technology that's been around since nineteen ninety nine onboard.

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00:56:53,000 --> 00:56:55,000

Ladies first. And maybe a red or blue lot.

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00:56:55,000 --> 00:57:04,000

And an optical sensor triggers a PDM solenoid to spray when certain wavelengths are reflected, indicating plant tissue to pick.

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00:57:04,000 --> 00:57:09,000

Detecting and spraying all plants is helpful and burn down or defoliation applications.

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00:57:09,000 --> 00:57:14,000

But it has its obvious limitations within crop applications still in development.

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00:57:14,000 --> 00:57:23,000

Our optical sensing and identification of specific targets such as weeds among crops is on the horizon as an example.

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00:57:23,000 --> 00:57:32,000

Blue River Technologies, up now owned by John Deere, uses machine learning algorithms to detect and spray only target organisms.

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00:57:32,000 --> 00:57:40,000

However, as of the time of this presentation, accurate results with these smart sprayers requires low trival speeds,

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00:57:40,000 --> 00:57:43,000

which greatly inhibit their potential adoption in Arkansas.

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00:57:43,000 --> 00:58:10,000

Crop production spray drone technology is becoming commonly used in China for applications traditionally achieved with backpacks sprayers.

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00:58:10,000 --> 00:58:16,000

For some reason, seemed like the video is stopped and we're going to check to see acknowledging the great beginning to catch on in the United States,

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00:58:16,000 --> 00:58:26,000

primarily in specialty crops, traditionally high risk aerial applications, and more recently in large facility sanitation's of Koban, not team.

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00:58:26,000 --> 00:58:31,000

Well, there are some practical applications using this exciting technology technology in large production

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00:58:31,000 --> 00:58:38,000

fields such as Lévy spraying and spot treatment of hard to reach areas of flood or flooded areas.

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00:58:38,000 --> 00:58:45,000

It's unlikely that these sprayers are going to replace your self-propelled or ag cat sprayers anytime soon.

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00:58:45,000 --> 00:58:50,000

Field robots are another exciting technology on the horizon.

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00:58:50,000 --> 00:58:53,000

Several industries, including agriculture, are currently developing smart,

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00:58:53,000 --> 00:59:00,000

robust and autonomous near field ready robots that may just make our life easier in the very near future.

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

While there are several examples of mechanical and chemical weeting robots in development,

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00:59:04,000 --> 00:59:12,000

it's really difficult to know when these systems will truly be field ready for our tough production environments.

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00:59:12,000 --> 00:59:19,000

More imminent. In my opinion, are the application decisions or production decisions in general that are better informed by big data?

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00:59:19,000 --> 00:59:20,000

In this context,

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00:59:20,000 --> 00:59:30,000

I'm referring to the proximal data like grid sample and yield data and remotely synced information from satellites or drones generated from your farm.

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00:59:30,000 --> 00:59:33,000

While many may be using this mounting data efficiently,

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00:59:33,000 --> 00:59:39,000

most producers that I visit with are somewhat frustrated by the onslaught of information that their operations are generating.

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00:59:39,000 --> 00:59:45,000

Weekly satellite updates previous year, soil samples in the last decades of use of yield maps.

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00:59:45,000 --> 00:59:50,000

It can all become a bit overwhelming to make sense of and may simply be underutilized.

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00:59:50,000 --> 00:59:57,000

We are currently beginning a project to help with this problem. It would really appreciate your participation.

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00:59:57,000 --> 01:00:02,000

We have partnered with AG Analytics, a data company that will act as a data pipeline together,

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01:00:02,000 --> 01:00:09,000

crop information, nutrient data, application information and yield maps from participants to participate.

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01:00:09,000 --> 01:00:16,000

Please visit the link shown, which will take you to our page on the AG Analytics Web site in the top right hand corner.

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01:00:16,000 --> 01:00:25,000

Click Log-in and then sign up as a new user. Signing up only requires an email address, password and user name.

501

01:00:25,000 --> 01:00:34,000

Once you have created an account and agreed to the terms of use simply son and to your John Deere or Case Operations Center,

502

01:00:34,000 --> 01:00:42,000

you are simply giving AG Analytics permission to make a copy of your equipment data and provide it to us for research purposes only.

503

01:00:42,000 --> 01:00:48,000

The QR code on the left side of the page takes you directly to our page to begin this process.

504

01:00:48,000 --> 01:00:57,000

You simply open the camera on your smartphone, point it at the QR square shown and it will open the appropriate web page.

505

01:00:57,000 --> 01:01:02,000

I will leave the code on the screen to give you a moment to find your phone and access the Web page.

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

A couple of things to note about participation. First, it is completely free and secure.

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

AG Analytics uses similar encryption is used in online financial track transactions to copy and transfer your data.

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

Second, all of your personal information is removed from the data.

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01:01:20,000 --> 01:01:25,000

The data used in our projects are anomalous before we receive it.

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01:01:25,000 --> 01:01:32,000

And finally, the whole process will only take two minutes to create a in an opt into the project.

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01:01:32,000 --> 01:01:35,000

This will require nothing from you once you have opted in. However,

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01:01:35,000 --> 01:01:43,000

your participation by granting us access to a copy of your operations data will greatly help us make heads or tails of large volumes of

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01:01:43,000 --> 01:01:52,000

data generated by operations like yours annually and provide insights into the influence of certain production practices on yields.

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01:01:52,000 --> 01:02:00,000

The ultimate goal would be to help you find efficient ways of making more informed decisions using this data swell.

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01:02:00,000 --> 01:02:05,000

Your participation would be greatly appreciated in getting this project started.

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01:02:05,000 --> 01:02:12,000

With that request, I will close and post my contact information if there are any questions after this meeting.

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01:02:12,000 --> 01:02:16,000

Feel free to contact me on my cell or email address provided again.

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01:02:16,000 --> 01:02:21,000

We would sincerely appreciate your participation in our big data project. Finally,

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01:02:21,000 --> 01:02:26,000

I would like to think that you have a systems division of agriculture for their support

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01:02:26,000 --> 01:02:33,000

of our ongoing projects and demonstrations that have contributed to this presentation.

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01:02:33,000 --> 01:02:38,000

Thank you, Jason. Again, for those of you that might be interested in that.

522

01:02:38,000 --> 01:02:49,000

Helping them with that study remembers analytics dot org slash u.a.e x nesh connect or try to get hold of Jason Davis, Jay Davis at U.A.E.

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01:02:49,000 --> 01:02:53,000

It's not easy. So now what we're going to do is we're going to keep moving forward.

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01:02:53,000 --> 01:03:00,000

And next up on our program is one of our extinction irrigation educators and Mr. My Campbellton.

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01:03:00,000 --> 01:03:11,000

So we're going to turn it over to Mike and let him educate us a little bit on irrigation.

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01:03:11,000 --> 01:03:20,000

Hello, I'm Mike Hamilton, and I appreciate your joining us today for our irrigation zoom or online meeting.

527

01:03:20,000 --> 01:03:28,000

I'm kind of tired of these I wish we'd get back to in person number one, I'm losing too much weight not having all these free meals.

528

01:03:28,000 --> 01:03:34,000

So I'm I'm really missing those and donuts. I was going to get me some donuts and every meal had with me today.

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01:03:34,000 --> 01:03:41,000

So somebody told me I should do that because I don't get it all in my life, my beer and everything.

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01:03:41,000 --> 01:03:46,000

So but I'm a talk about some new gadgets that we're using out in the field.

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01:03:46,000 --> 01:03:51,000

You know, Irrigations, these are things that we do out there as this picture here shows.

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01:03:51,000 --> 01:03:56,000

You show. You know, you see how easy it is. Everybody. Nobody ever sees this out in the field.

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01:03:56,000 --> 01:03:59,000

We don't ever have a problem like that.

534

01:03:59,000 --> 01:04:08,000

This guy actually called me and asked me if I if I thought this was going to blow up or would you make it throughout the season?

535

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

I think before we get done talking, he figured out what was going to make.

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01:04:12,000 --> 01:04:18,000

Well, you know, there's always some pretty unique ideas out there that I come across.

537

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

But there's a few things you wouldn't be happy with.

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01:04:22,000 --> 01:04:31,000

You'll give us a call. They don't say yes or station. And maybe we can had a few of these things off on the Ferrone.

539

01:04:31,000 --> 01:04:39,000

One of the biggest things that we're using here lately is the pipeline approach, where we use Falchuk for years and years,

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01:04:39,000 --> 01:04:49,000

pipeline or now is as it rolls up to a whole new dimension because we can break it up into say it's a lot easier.

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01:04:49,000 --> 01:04:54,000

We can take the short rows, the long road with the foot elevation stuff in there.

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01:04:54,000 --> 01:04:58,000

Now there's a whole lot of bells and whistles that we're we're doing now with the pipeline

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01:04:58,000 --> 01:05:05,000

or program that we didn't have to do with faults or we had we do a lot more with falsetto.

544

01:05:05,000 --> 01:05:10,000

We had to measure everything with false. Now, Pipeline is doing the measurements for us.

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01:05:10,000 --> 01:05:18,000

That's taken quite a bit of off our plate. Now, Pipeline Delta has went back and redesigned a few things.

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01:05:18,000 --> 01:05:25,000

Now, I think you're really going to like these changes this year. One of the big things that they did is made it much more mobile friendly.

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01:05:25,000 --> 01:05:34,000

So if you're doing it on a phone or a tablet, it's going to be much more user friendly to you to do Talwar through everything and

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01:05:34,000 --> 01:05:39,000

draw the fields and to break it into say it's a few other things that they fix.

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01:05:39,000 --> 01:05:43,000

This picture on the left here is, you know, the center, the field design,

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01:05:43,000 --> 01:05:48,000

when you're running through the center of the field, whether it's your regular or straight down the middle.

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01:05:48,000 --> 01:05:55,000

You know, sometimes we'd have a lot of problems with the whole pipeline problem, but but now they get that figured out.

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01:05:55,000 --> 01:06:03,000

We do irregular fields where one side's longer than the other words enter and on the north and leaving out the east,

553

01:06:03,000 --> 01:06:08,000

you know, has a crook in it or something. So they fixed a lot of stuff there.

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01:06:08,000 --> 01:06:13,000

Another thing they fixed on the right side, you can see uneven set sizes.

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01:06:13,000 --> 01:06:21,000

You know, it breaks in everything. Originally, it would break everything into perfectly even set sizes.

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01:06:21,000 --> 01:06:25,000

You know, if it was a 60 hour field, it would do 30, 20 hour sets.

557

01:06:25,000 --> 01:06:32,000

Well, now you can break that into it. I want to run a whole run of tubing and stop there at the end of my shop yard.

558

01:06:32,000 --> 01:06:40,000

And then I want to do the second set from there to do this such and such fence post or whatever.

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01:06:40,000 --> 01:06:45,000

Now you can break that up where you want to instead of it being perfectly even.

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01:06:45,000 --> 01:06:49,000

So, you know, that that that that feature is working a lot better now.

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01:06:49,000 --> 01:06:55,000

And and I think you're going to like that. One of the biggest things, they brought the pipe.

562

01:06:55,000 --> 01:07:02,000

And we've been hearing about this for quite a while now is when we do our final report.

563

01:07:02,000 --> 01:07:04,000

I'd like to have a little picture on there.

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01:07:04,000 --> 01:07:12,000

And now they put me a little thumbnail on their little bigger than a thumbnail, actually, so that I can glance at that and tell exactly where I'm at.

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01:07:12,000 --> 01:07:19,000

Most of the time. And when I give that to somebody to go out and punch holes, they know exactly where they're at.

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01:07:19,000 --> 01:07:27,000

They know what set that is. And, you know, there's no miscommunication there because, you know, they know the field and the boundaries.

567

01:07:27,000 --> 01:07:31,000

And this is over by that little pond or right by the interstate or whatever.

568

01:07:31,000 --> 01:07:36,000

You know, that little maps will be a big help to us.

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01:07:36,000 --> 01:07:41,000

Now, one thing they've taken out and they promise are going to put it back in pretty quick.

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01:07:41,000 --> 01:07:48,000

It's there. It's just not on the final print page. And that's just how long it's going to take for each set.

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01:07:48,000 --> 01:07:51,000

Now, I've had a lot of people talk to me about that.

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01:07:51,000 --> 01:07:55,000

And they said, you know, Poplin is way off on that one.

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

It's an estimate. And it's not supposed to be perfect if it is perfect.

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01:08:01,000 --> 01:08:08,000

That's great. That means you're getting three a. inches on their, you know, very uniform and everything works out perfect.

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01:08:08,000 --> 01:08:10,000

If it comes out and it is 26 hours,

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01:08:10,000 --> 01:08:18,000

it but if it takes shorter or longer than just major pumping more water out of a field or less water than you need to so that,

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01:08:18,000 --> 01:08:26,000

you know, your subsequent irrigations may need to be much quicker or delayed even more, depending on how much water to your pump.

578

01:08:26,000 --> 01:08:34,000

So we came up with a furrow irrigation calculator and there's a whole lot of information there on a number of Zubaan, so you can see a little better.

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01:08:34,000 --> 01:08:44,000

But the main thing of it is, is you simply tapping in your well capacity and the field size or the.

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01:08:44,000 --> 01:08:48,000

Size of the actual irrigation set.

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01:08:48,000 --> 01:08:58,000

And then when you hit submit, it's going to give you out the irrigation level and I creatures that it should put out at a given time.

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01:08:58,000 --> 01:09:06,000

So in this scenario, two thousand gallons a minute. Forwell capacity and a 56 acre field.

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01:09:06,000 --> 01:09:14,000

It's going to take 13 hours to put out one inch of water. Twenty five to put out to thirty for three and fifty one for four.

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01:09:14,000 --> 01:09:21,000

And you just use that. And if if you irrigate this field and in twenty five hours you're down at the bottom.

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01:09:21,000 --> 01:09:25,000

And you know you're running water. The danger. It's time to cut it off.

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01:09:25,000 --> 01:09:31,000

Right. So that means you put out two acre inches.

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01:09:31,000 --> 01:09:38,000

If you want more than that, then you're going to have to put a surge value in or do a cover crop to get some better infiltration.

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01:09:38,000 --> 01:09:42,000

Know you've got to do something to to get more water out there.

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01:09:42,000 --> 01:09:47,000

If you only took 13 hours to do this, I mean, you put an age of water out.

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01:09:47,000 --> 01:09:49,000

And that scenario, that means that you're going to irrigate Monday.

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01:09:49,000 --> 01:09:55,000

You're possibly going to have to come back Thursday during peak water demand when we're using the third of an inch of that.

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01:09:55,000 --> 01:10:00,000

So this this just kind of helps you with your scheduling.

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01:10:00,000 --> 01:10:05,000

And I think if you use this in combination with your irrigation sensors,

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01:10:05,000 --> 01:10:11,000

your water mark sensors that we're putting out in the fields, I really think you'll get a lot of benefit out of it.

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01:10:11,000 --> 01:10:18,000

There's a big difference in irrigating and water, and we're trying to get you to go to the next step and really,

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01:10:18,000 --> 01:10:28,000

really concentrate on how much we're applying out there, how deep the roots are using the water and all the variables that go along with that.

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01:10:28,000 --> 01:10:36,000

You know, one of the things that Bob Blender's brought to the table is the elevation that we're putting in our program.

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01:10:36,000 --> 01:10:41,000

You know, we've got a lot of fields that we're putting barrels out. We've got fields that we're I was there for five rows.

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01:10:41,000 --> 01:10:46,000

Sometimes when it's drop and said make food or 10 foot down, that broken well,

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01:10:46,000 --> 01:10:50,000

pop planner will tell you where to put those barrels exactly when you get in there.

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01:10:50,000 --> 01:10:57,000

It'll tell you to put a choke or a barrel or whatever you want at various places down through that field.

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01:10:57,000 --> 01:11:06,000

I've got feet, folks, that will put a jack. And the reason they're doing this is because depending on that hole size and the pressure,

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01:11:06,000 --> 01:11:12,000

your water coming out of that same hole could fluctuate significantly.

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01:11:12,000 --> 01:11:19,000

How many holes do you think? How many have been told? Do you think it takes the equal to one H0?

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01:11:19,000 --> 01:11:25,000

Would you believe it takes for. For he chose to equal a one hll.

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01:11:25,000 --> 01:11:31,000

At any given pressure now that goes up or down, it's still the math is the same.

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01:11:31,000 --> 01:11:34,000

It's just it just takes that many holes to do it.

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01:11:34,000 --> 01:11:40,000

But you can see here from at one point five feet of head, I can get four gallons a minute out of a half a toe.

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01:11:40,000 --> 01:11:45,000

I get a whole nother gallon out of it. It was up to two point five hip fracture.

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01:11:45,000 --> 01:11:52,000

So, you know, there's a lot of variability. And that's why that's why the pipeline has been such a benefit to us.

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01:11:52,000 --> 01:11:59,000

Now, I can put it there. In fact, I know that I want to do one foot of it and it'll tell me where to put the barrels in this scenario.

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01:11:59,000 --> 01:12:04,000

So we'll be 50 half barrels, about a foot tall, right.

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

Now, I move that up to two point five feet. Now I'm put in for.

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01:12:09,000 --> 01:12:13,000

Well, I'd rather have food or take up for as opposed to fifteen down.

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01:12:13,000 --> 01:12:21,000

Right. So I'm putting a little bit bigger build up and saving myself some work in the long run and saving home sizes,

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01:12:21,000 --> 01:12:27,000

because before and after ever, Hope says that pressure changes, changes a lot.

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01:12:27,000 --> 01:12:31,000

I've got growers that are using just so we're not there and build it up.

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01:12:31,000 --> 01:12:36,000

Some are making their own little jag where they can raise it up or down, adjust it.

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01:12:36,000 --> 01:12:44,000

Some are using everything they've got in the back of the toilet. I've got others that go back and load the Toyota up again.

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01:12:44,000 --> 01:12:48,000

Now, this is a this is transfer tube here.

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01:12:48,000 --> 01:12:56,000

So that's why it's so much taller, a whole lot more pressure. But that's the thing about the Pathfinder program is it tells you where that pressure

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01:12:56,000 --> 01:13:01,000

is and where to put a bill to when to use 18 needs to be twenty two weeks to win.

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01:13:01,000 --> 01:13:08,000

Sometimes if you've got a whole lot of water and it also tell you where that hit pressure's higher low at.

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01:13:08,000 --> 01:13:12,000

Now, one of the big things I like doing is leaving my pop open ended.

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01:13:12,000 --> 01:13:19,000

I don't like kind of not down there on the bottom of it because this if water's coming out here as opposed to blowing up.

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01:13:19,000 --> 01:13:23,000

I've just got water trickling out and I'm not wanting to put some more in clams up there.

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01:13:23,000 --> 01:13:28,000

Once I get it set right in Papua and which would really, really float right off the bat.

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01:13:28,000 --> 01:13:32,000

But once I get that set right, I won't have any water running now. And I can that.

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01:13:32,000 --> 01:13:33,000

Not if I won't.

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01:13:33,000 --> 01:13:43,000

But if you have any any problems resurging or, you know, some some something happened to your Tubin to roll off of an incline or something,

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01:13:43,000 --> 01:13:50,000

then I've got more water down here and it's going to blow up and I might not get there for six or eight hours to check that again.

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01:13:50,000 --> 01:13:54,000

So I like leaving it. If you've blown up at the water source,

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01:13:54,000 --> 01:14:01,000

that just means I need to put a line to you up at my water source so that I can take the pressure off up there.

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01:14:01,000 --> 01:14:06,000

And, you know, with the power you did, I can I could raise it up and down and get it to work.

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01:14:06,000 --> 01:14:13,000

Nothing's coming out of the top of that. And I know my pressure is not gonna blow up when I put that 2.5 feet above the ground.

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01:14:13,000 --> 01:14:21,000

So, you know, you can you can save yourself a lot of headaches, but not time that often leave with it, leave it in an open system like that.

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01:14:21,000 --> 01:14:26,000

Now, drones. Drones are one of the newest things that we've been playing with.

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01:14:26,000 --> 01:14:31,000

Got one last year and this one's actually got our t.k.

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01:14:31,000 --> 01:14:37,000

So, I mean, I've got RPK ground unit there that I'll put out and this will give me elevation.

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01:14:37,000 --> 01:14:43,000

And you talk about accurate. I am extremely impressed with how accurate this thing is.

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01:14:43,000 --> 01:14:49,000

All I do is tell it where I want to fly over a field and now it takes a bunch of pictures.

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01:14:49,000 --> 01:14:55,000

Process them and put them together. I can walk to where my drones going and fly in real life.

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01:14:55,000 --> 01:15:01,000

And on the screen I can watch words track the words being I'll take it back to the computer and put it

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01:15:01,000 --> 01:15:08,000

on there and I'll use one of the various software as that's available to help ships that image together.

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01:15:08,000 --> 01:15:14,000

And then I'll have my map of the field and then I can take it and get my elevation off of it.

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01:15:14,000 --> 01:15:19,000

I can run down that wall, the tube in Laniers. And I like this because I'm not guessing.

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01:15:19,000 --> 01:15:27,000

I'm not up on the turn ro close to the turn row or up on the turn row or down in the field too far.

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01:15:27,000 --> 01:15:40,000

I can zoom into that map and get exactly where my tubing is going to lie, going around Sabine's and curve and get very accurate with my fluctuations.

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01:15:40,000 --> 01:15:49,000

You know, I might go up or down on my tube and run. And the more information I put in the blender program, more accurate it's going to be.

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01:15:49,000 --> 01:15:54,000

So I like having this in there. And I'm doing this with a pretty reasonable price drawing.

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01:15:54,000 --> 01:15:58,000

And a lot of folks are getting into this. There's there's some other researchers.

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01:15:58,000 --> 01:16:03,000

And then I know some private folks that are that are doing this as well.

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01:16:03,000 --> 01:16:08,000

But I could run that land. This is a to me fifteen minutes to fly this run.

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01:16:08,000 --> 01:16:13,000

And I took a couple hours to do the analyzing of it and get it back.

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01:16:13,000 --> 01:16:18,000

But I can do that pretty quick and and get you a pretty good line out there.

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01:16:18,000 --> 01:16:25,000

And the one thing about it is I'm not going to get out there and track mud across three field or, you know, run anything up.

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01:16:25,000 --> 01:16:32,000

I'm I'm flying this drone. Lungs are not standard water to give me some management problems.

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01:16:32,000 --> 01:16:38,000

It's going to give me some pretty good data. Very good data. It's just a different running.

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01:16:38,000 --> 01:16:44,000

See the tree line there that I'm going next to? We just follow that out and.

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01:16:44,000 --> 01:16:54,000

Did it look to various folks did this? And we've also compared it to the lab, our data and the tracker with with our system.

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01:16:54,000 --> 01:17:00,000

And it's amazing how far forgettin it's Ruth within an age.

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01:17:00,000 --> 01:17:05,000

Within an age. And sometimes I think the drone will outperform some of the other stuff,

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01:17:05,000 --> 01:17:10,000

especially whenever you're out there, if you're sinking down anywhere with your machinery.

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01:17:10,000 --> 01:17:16,000

This drone that it's getting that image right on top. So, you know, the swathe of the surface, the better it's going to be.

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01:17:16,000 --> 01:17:25,000

But it's very accurate, very accurate. Now that we're doing a lot of road race and I don't see that going backwards,

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01:17:25,000 --> 01:17:33,000

I think you're very important to get these elevations on Roe rice and to run the pipeline or program so that we can get it, get it, get it.

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01:17:33,000 --> 01:17:38,000

Pretty perfect on the front. Another thing in RAICES is multiple women.

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01:17:38,000 --> 01:17:44,000

And I can take that drone fired over the field and measure these patterns.

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01:17:44,000 --> 01:17:47,000

That's one thing that, you know, we can do it with an older image.

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01:17:47,000 --> 01:17:54,000

But if we do any dirt work or if there's any little difference from one year to the next,

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01:17:54,000 --> 01:17:59,000

when we pull the levees, you know, that's going to be a little different on our design.

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01:17:59,000 --> 01:18:05,000

So I like flying the field with a drone, getting a real time image of that year.

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01:18:05,000 --> 01:18:12,000

You can see this field on the left here that that thirty three acre paint patty there, you know it go from east to west, north to south.

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01:18:12,000 --> 01:18:16,000

And, you know, the hired him that I've worked with on this.

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01:18:16,000 --> 01:18:22,000

He said you said either that was a weird panty, but he said I sure did know it was on all four corners of the field.

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01:18:22,000 --> 01:18:28,000

He said that's a water in it. And I didn't know which field to shut off or open up to get more water here.

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01:18:28,000 --> 01:18:33,000

There were a heel was so, you know, getting that image out there is pretty nice.

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01:18:33,000 --> 01:18:40,000

And you can see over here on a precision level field. You know, those those aren't perfect.

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01:18:40,000 --> 01:18:48,000

The spaces in between those and, you know, if you're just going to go out there, I guess you could be quite a bit off on some of the patties.

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01:18:48,000 --> 01:18:57,000

And get your multipoint set up on the front and they'll help you a lot. And this one just just a big not Merrifield that we did did DMSO.

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01:18:57,000 --> 01:19:06,000

This is actually at Pinetree on the station. And then there's a whole lot of Pattiz down there and there's multiple water sources.

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01:19:06,000 --> 01:19:12,000

Pretty complicated, but it's amazing that we can fly that drone over there.

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01:19:12,000 --> 01:19:15,000

This took a couple hours to fly, but once we got it done,

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01:19:15,000 --> 01:19:21,000

it saved us a whole lot of work and give us some very, very, very good acreage on those planes.

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01:19:21,000 --> 01:19:28,000

One last thing I'll mention on drones is, you know, people's gotlib.

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01:19:28,000 --> 01:19:29,000

And, you know,

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01:19:29,000 --> 01:19:43,000

other than going out and getting some surveys of the damage from a storm or how much down rise or down grain snap are gone and go Maun or whatever,

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01:19:43,000 --> 01:19:49,000

you could fly this and a lot of your drainage ditches out there and really

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01:19:49,000 --> 01:19:55,000

hone in on where you need to go do some significant work to clean out of date.

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01:19:55,000 --> 01:20:04,000

And since in somebody in there, if you just need to cut a law or to compared to getting a track, go in there, you know, it'll save you a lot of money.

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01:20:04,000 --> 01:20:11,000

This grower here, you know, he said it saves him quite a bit, said it going up down the whole beach.

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01:20:11,000 --> 01:20:15,000

He just went to five or six places down there, swept it out and then a couple others.

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01:20:15,000 --> 01:20:25,000

He said he took a tractor and took the to China to it law. So pretty, pretty handy dandy thing once you get used to flannel.

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01:20:25,000 --> 01:20:31,000

They're not that hard. Be careful who you let fly. It's Chip Wilson and let his son fly it one day.

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01:20:31,000 --> 01:20:38,000

And once I got it up off the ground and away from Vine's, it was good.

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01:20:38,000 --> 01:20:43,000

When I let him take off, we almost hit the green man in the truck in the same flat.

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01:20:43,000 --> 01:20:49,000

Within two seconds of each other. So I got a little little carried away with that one.

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01:20:49,000 --> 01:20:55,000

But once we got it up. Everything was good. Well, I'll stop there and appreciate all attended.

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01:20:55,000 --> 01:21:02,000

And I hope you get a couple of questions for us. Thank you all so much. Well, thanks, Mike.

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01:21:02,000 --> 01:21:04,000

What we're gonna do is we've got a couple of questions,

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01:21:04,000 --> 01:21:12,000

and I think what we'll do is just go ahead and sign them to the end in and go ahead and we'll go ahead and start with the next presentation we've got.

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01:21:12,000 --> 01:21:16,000

And that's gonna be from Dr. Chris Henry.

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01:21:16,000 --> 01:21:25,000

And Dr. Henry is another one of our water irrigation people, but his actual title is exchanging water management engineers.

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01:21:25,000 --> 01:21:37,000

So what we're going to do is turn it over to Dr. Henry when we get done with him, we'll we'll get into the question part of our program.

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01:21:37,000 --> 01:21:39,000

Good day. My name is Chris Entering.

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01:21:39,000 --> 01:21:46,000

I'm an associate professor and water management engineer for the University of Arkansas System Division Mariculture,

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01:21:46,000 --> 01:21:51,000

located at the Rice Research and Extension Center in Stuttgart, Arkansas.

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01:21:51,000 --> 01:21:57,000

I'm going to talk to you today about interpreting soil moisture sensors, taking that confusion out.

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01:21:57,000 --> 01:22:02,000

I know when we first get started with sensors, it can be very confusing trying to learn how to use them.

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01:22:02,000 --> 01:22:14,000

So we're going to talk about that today and show you some ways of learning to how to interpret the numbers.

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01:22:14,000 --> 01:22:21,000

But before I do that, I want to talk about what I call the five phases of soil moisture sensor emotions,

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01:22:21,000 --> 01:22:26,000

and we all go through these emotions as we're learning to use sensors.

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01:22:26,000 --> 01:22:36,000

So the first phase is what I call the interest phase. We looked across and we see sensors poking out of the canopy of our neighbor's fields.

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01:22:36,000 --> 01:22:42,000

The neighbors are using sensors. I need to figure this out. How hard can it be?

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01:22:42,000 --> 01:22:46,000

In the second phase is the confusion phase. So we bossom sensor.

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01:22:46,000 --> 01:22:49,000

We put them in the ground trying to use them.

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01:22:49,000 --> 01:22:52,000

We're getting numbers from the center of the cinnabar thing.

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01:22:52,000 --> 01:22:57,000

BCB numbers. The window I need airdate.

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01:22:57,000 --> 01:23:02,000

I can only divert my pump for 24 hours from the rice fields.

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01:23:02,000 --> 01:23:07,000

But when do I need to do that? What does a CB anyway?

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01:23:07,000 --> 01:23:11,000

I just need to know when I need air. Get that feel.

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01:23:11,000 --> 01:23:20,000

I don't need to know these numbers. Then we move on to phase three, which is the dilemma affects.

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01:23:20,000 --> 01:23:29,000

I want to wait until I reach threshold. But. When will I be at that threshold?

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01:23:29,000 --> 01:23:37,000

This field has more clay. Do I use the same threshold in this as I did in the solo?

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01:23:37,000 --> 01:23:43,000

When Air gave the last time several, the sensors didn't hardly change [INAUDIBLE], I irrigate a little sooner this time.

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01:23:43,000 --> 01:23:49,000

The numbers are still moving. Then we get to the surrender stage.

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01:23:49,000 --> 01:23:56,000

One sensor is at one hundred and twenty, it moved up there so fast. But my average is only fifty five.

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01:23:56,000 --> 01:24:00,000

Do I have to wait? Those numbers. I'm tired of doing math.

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01:24:00,000 --> 01:24:07,000

I need to irrigate. If I screw this up, though, the landlord is to find out.

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01:24:07,000 --> 01:24:14,000

Oh, the heck with it. Let's just turn the pump on, everybody else is irrigating.

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01:24:14,000 --> 01:24:19,000

So we've all gone through this as we've learned to use sensors.

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01:24:19,000 --> 01:24:29,000

So there's a better way. So what I want you to do is get your phone out once you go to the App Store or Google Play and I want you to download an app.

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01:24:29,000 --> 01:24:35,000

And this is going to make things so much simpler. Go get and find our app.

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01:24:35,000 --> 01:24:41,000

It's called the Soul Sensor Calculator or the Arkansas watermark to.

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01:24:41,000 --> 01:24:45,000

If you have an Android device, it's called Soul Sensor Calculator, this is what they look like.

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01:24:45,000 --> 01:24:49,000

Look for this icon. Download it. I want you to keep your phone out.

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01:24:49,000 --> 01:24:54,000

I want you to use the app while I'm talking during the rest of this presentation.

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01:24:54,000 --> 01:24:59,000

So you have permission to be on your phone while I'm talking on the Zoom section.

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01:24:59,000 --> 01:25:04,000

So we're talking about watermarked. Two hundred SS sensors.

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01:25:04,000 --> 01:25:12,000

We recommend putting these in at six, twelve, 18 and 30 inches right in where the crops growing.

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01:25:12,000 --> 01:25:16,000

We use slide hammers to put them in. You can use telemetry. You can read it manually.

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01:25:16,000 --> 01:25:21,000

You can build them yourself. You combined pre-built. I don't care. But this is what they look like.

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01:25:21,000 --> 01:25:27,000

And this is what we're talking about. We talked about soil moisture sensor. OK.

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01:25:27,000 --> 01:25:37,000

Now, there's a few really important concepts you need to understand to really utilize sensors on your farm.

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01:25:37,000 --> 01:25:45,000

And so talk about that as I discussed the. So you get a little physics lessons here, a little of physic lesson here.

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01:25:45,000 --> 01:25:55,000

So let's take a Cuba soil and Cuba's soil is made up of soil, water and air and take that Cuba's soil.

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01:25:55,000 --> 01:26:06,000

And we're going to push all of the air out so that we only have water and soil in that queue that is known as saturation.

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01:26:06,000 --> 01:26:10,000

We're going to let gravity take effect now and let a little bit of air come out.

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01:26:10,000 --> 01:26:16,000

So Graham is got polluted water. Our air is going to come in. But that Cuba's soils hold all of the water it can.

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01:26:16,000 --> 01:26:21,000

And that cue. And that is known as the field capacity. So that's all the water.

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01:26:21,000 --> 01:26:26,000

The soil can hold on. And so. We're going to start pulling water out of that.

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01:26:26,000 --> 01:26:31,000

I could plant wood and we keep going till we get to what's called the permanent wilting point.

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01:26:31,000 --> 01:26:36,000

Now, they're still in that Cuba soil. There's still water and air in there.

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01:26:36,000 --> 01:26:42,000

But the plants can't pull any more water out of that tube. That's called, like I said, the penalty point.

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01:26:42,000 --> 01:26:46,000

So in irrigation, we work between the field capacity and the building point.

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01:26:46,000 --> 01:26:52,000

Field capacity is around 33 Senate bars. The permanent wilting point is fifteen hundred centimeters.

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01:26:52,000 --> 01:26:59,000

The range of a watermark is from zero to 200. OK.

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01:26:59,000 --> 01:27:06,000

Let's get the app out. Hopefully you've got it downloaded by now. There's a little blue button up in the upper right hand corner.

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01:27:06,000 --> 01:27:12,000

The information button, if you push that button, it opens up the menu or the help menu.

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01:27:12,000 --> 01:27:18,000

And you can go through and I have all the details of how to use a sensor or what whatever whatever part of the app means.

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01:27:18,000 --> 01:27:31,000

So you can read read up on that. If you're unsure. So let's take some AMPA, some readings, and so here is telemetry unit that summer that I had.

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01:27:31,000 --> 01:27:40,000

We have sensors of six, 12, 18 and 30 inches. The readings are 21, 12, 18 and six centa bars of tension.

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01:27:40,000 --> 01:27:45,000

So let's put that into our app. Twenty one, twelve.

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01:27:45,000 --> 01:27:50,000

Eighteen and six. At six, 12, 18 and 30 inches.

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01:27:50,000 --> 01:27:56,000

That's the first step. The next step is to put in an effective running depth, you get to pick the effective running debt.

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01:27:56,000 --> 01:28:01,000

But the range the apple eye uses from 14 inches to 48.

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01:28:01,000 --> 01:28:08,000

But how do we know what our effective reading depth is? Let's use the sensors.

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01:28:08,000 --> 01:28:15,000

So if we look at our sensors and our at the day are the numbers in this chart, we can see that our six,

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01:28:15,000 --> 01:28:21,000

twelve, 18 and 30 inch sensors, the 30 inch sensor has been flat for some time.

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01:28:21,000 --> 01:28:23,000

There's been no movement. It's been a zero.

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01:28:23,000 --> 01:28:30,000

But we're seeing movement in the six, 12 and 18 sensors so that obviously the plants are pulling water out of that portion of the profile.

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01:28:30,000 --> 01:28:36,000

And we just now have seen the third against sensor start to change target from zero to six just in the last day.

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01:28:36,000 --> 01:28:43,000

So you could use anywhere from 18 to 36 inches would be a reasonable, effective rudie depth.

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01:28:43,000 --> 01:28:48,000

30 inches is my favorite effective running depth to use as very conservative.

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01:28:48,000 --> 01:28:58,000

But look, guys will tell us for corn could be three to four feet and soybeans two to three feet.

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01:28:58,000 --> 01:29:03,000

Here's an example of where we have no movement at the 30 inch profile.

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01:29:03,000 --> 01:29:12,000

That's the green line. But we're seeing pretty good movement in the profile six, twelve, eighteen, six, 12 and 18 in sensor, which is eighty four.

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01:29:12,000 --> 01:29:17,000

Sixty seven, forty five. So since the 17 is not 30 sensors not moving.

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01:29:17,000 --> 01:29:21,000

I would use either 18 or 24 inches as effective.

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01:29:21,000 --> 01:29:27,000

Really. So you can use your sensors and and their change or rate of change or decide if

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01:29:27,000 --> 01:29:33,000

the water moving and how deep it is in the profile and use that in your app.

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01:29:33,000 --> 01:29:38,000

The next thing you're gonna do is select the whole time. We have five soil types available.

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01:29:38,000 --> 01:29:42,000

Sandy lo low. So long with the pan Soloman Clay.

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01:29:42,000 --> 01:29:45,000

So pick your soul time. Now,

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01:29:45,000 --> 01:29:53,000

the soul time is very important because how much available water is purely a function of the difference between Zielke capacity and wilting point.

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01:29:53,000 --> 01:30:00,000

So that range we talked about in that Cuban soil. The bigger that is, then the more water that the soil holds.

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01:30:00,000 --> 01:30:13,000

So from this graph, you can see that silt loans hold the most amount of water followed by clays and then loans, sandy loans and same.

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01:30:13,000 --> 01:30:20,000

And we have to just for this. The next thing you know, you select is what's called allowable depletion.

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01:30:20,000 --> 01:30:26,000

So we allow you to select the allowable depletion and it ranges from 30 percent to 50 percent.

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01:30:26,000 --> 01:30:28,000

And this is essentially your safety factor.

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01:30:28,000 --> 01:30:37,000

How how how much risk are you willing to take or how much of the soul water balance you want to consume before you irrigate again?

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01:30:37,000 --> 01:30:39,000

So we talked about the difference between build capacity.

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01:30:39,000 --> 01:30:45,000

Point, that's a plan available water, and we usually only use about half of that or 50 percent.

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01:30:45,000 --> 01:30:48,000

So that's the maximum allowable depletion will try to use the rest of it.

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01:30:48,000 --> 01:30:56,000

That is our safety factor. And so for further nation, we're reporting on two, three inches of water.

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01:30:56,000 --> 01:31:05,000

We need to deplete the water before refill it so we'll use 40 to 50 percent allow with depletion for for irrigation.

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01:31:05,000 --> 01:31:11,000

If we have a center pivot, I would suggest using 30 to 40 percent allowable completion because we're not putting

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01:31:11,000 --> 01:31:16,000

as much water on and we can stored in the soil because our application depth is lower.

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01:31:16,000 --> 01:31:21,000

So we don't need to go as far or use as much of our safety factor.

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01:31:21,000 --> 01:31:30,000

So 30 to 40 percent, plenty acceptable for a center pivot or if you have a very limited water system, you have trouble keeping up.

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01:31:30,000 --> 01:31:36,000

You might use a lower level. But inflation, so if you do get behind, you have some extra safety.

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01:31:36,000 --> 01:31:40,000

Buffer capacity. The next thing you can select is the crop.

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01:31:40,000 --> 01:31:48,000

Go stage. And in this menu, I give you how much water the plants use at each grove stage in interest per day.

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01:31:48,000 --> 01:31:59,000

We do this for corn and soybeans. So you can select that. Then lastly, you'll put in the amount of time it takes to complete an irrigation.

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01:31:59,000 --> 01:32:02,000

You can take this from your pipe planner designed, for example,

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01:32:02,000 --> 01:32:11,000

but this is essentially how long is it going to take for you to irrigate that field to put on the desired application?

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01:32:11,000 --> 01:32:20,000

So hit calculate, and that then gives you the information you need, it tells you what the average reading is,

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01:32:20,000 --> 01:32:22,000

how much water is available in the profile on this case,

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01:32:22,000 --> 01:32:27,000

it's two point three inches dressed as expected occur at one hundred and twenty three centimeters.

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01:32:27,000 --> 01:32:31,000

And irrigation should be initiated in this field in six point eight days.

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01:32:31,000 --> 01:32:38,000

And the crop still needs about 14 inches of water to finish out the growing season.

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01:32:38,000 --> 01:32:43,000

Now, if you put in your time to complete irrigation than what I do or what the app does is it figures

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01:32:43,000 --> 01:32:49,000

out basically in eight days you're going to exhaust the salt salt water in the profile.

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01:32:49,000 --> 01:32:54,000

And so we need to start irrigating suit. We run out of water so it backs that time up.

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01:32:54,000 --> 01:32:59,000

So by the time you start. And by the time the water gets to the plants, takes you 24 hours.

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01:32:59,000 --> 01:33:03,000

In this example, you have reached your allowable depletion by then.

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01:33:03,000 --> 01:33:09,000

And so we started ahead enough. So you don't get too you don't get too far.

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01:33:09,000 --> 01:33:17,000

So that's why this six point eight days comes from. So let's fast forward a little further in the season.

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01:33:17,000 --> 01:33:24,000

Let's say we have corn at our five 50 percent milk line or now we're at the end of the season.

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01:33:24,000 --> 01:33:31,000

We're going to use 50 percent allowable depletion because we don't need a safety factor anymore.

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01:33:31,000 --> 01:33:41,000

And it says the average rating and it tells you that no irrigation required because two point two inches of water are needed to finish out the crop,

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01:33:41,000 --> 01:33:47,000

which is less than the two point five inches you still have available in the profile.

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01:33:47,000 --> 01:33:55,000

So you're done for the year. If you don't have enough water at the end of the season, then the app gives you a lot more information.

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01:33:55,000 --> 01:34:04,000

So here in this example, our average reading was 91 Sentebale. We have about half an inch of water left in the profile.

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01:34:04,000 --> 01:34:09,000

We need to irrigate in about two days. The crop still needs about an inch of water.

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01:34:09,000 --> 01:34:12,000

We have half an inch. So we need another half an inch.

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01:34:12,000 --> 01:34:20,000

That can come in the form of precipitation or we're going to irrigate because irrigation is not as efficient, is 100 percent efficient.

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01:34:20,000 --> 01:34:27,000

We need to add a little extra. So we've added that in takes about seven tenths of an inch to finish irrigation.

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01:34:27,000 --> 01:34:32,000

So that we put the numbers and essentially it tells you you are getting two days.

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01:34:32,000 --> 01:34:36,000

If it rains a half an inch, you're done. Otherwise put on seven tenths of an age.

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01:34:36,000 --> 01:34:40,000

So if you have a four irrigation system, you can do a quick flush.

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01:34:40,000 --> 01:34:51,000

If you have a center pivot, you can actually set your percent timer to exactly point seven of an age and finish out the season.

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01:34:51,000 --> 01:34:56,000

We have this app available on Android. This is what it looks like. It works exactly the same way.

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01:34:56,000 --> 01:35:06,000

It just has a little different look. So remember to always visually inspect the crop to ensure that the sensors in the crop condition agree.

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01:35:06,000 --> 01:35:11,000

Use a slide hammer to verify soil moisture readings that do not seem reasonable.

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01:35:11,000 --> 01:35:17,000

Most of the time, the sensors are right. And our perceptions and expectations are wrong.

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01:35:17,000 --> 01:35:24,000

Sometimes placement or installation is the reason, but this is rare. Sensors cannot fix for infiltration.

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01:35:24,000 --> 01:35:32,000

They are a tool and are just reporting what they sense. It is our job as irrigators to figure out why things are not what we expect.

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01:35:32,000 --> 01:35:37,000

And if sensors are changing, so water is moving the profile at that depth.

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01:35:37,000 --> 01:35:42,000

And remember, that sensor is only measure of one location, they feel they're not sensing the entire field.

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01:35:42,000 --> 01:35:49,000

And we have to understand that limitation. To use them effectively.

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01:35:49,000 --> 01:35:56,000

For more information about soil moisture sensors, you can see we have some fact sheets available.

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01:35:56,000 --> 01:36:01,000

Put them out here. The first one is on how to prepare a test, install watermark sensors, how to construct them.

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01:36:01,000 --> 01:36:09,000

All the materials that you need to build a watermark sensor set. The second fact sheet in the series is how to use watermarked sensors.

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01:36:09,000 --> 01:36:16,000

So has a lot more detail about the sensors and interpretation and charts than two to figure out what the water balance is.

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01:36:16,000 --> 01:36:21,000

And the last actually is that critical one at the end of the season.

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01:36:21,000 --> 01:36:25,000

How to make that decision about the last irrigation and when you're finished?

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01:36:25,000 --> 01:36:31,000

That's probably the most important one, in my opinion. That's the one that can actually help you save the most amount of water because it

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helps save that last irrigation and make sure that if you do have to irrigate,

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01:36:35,000 --> 01:36:40,000

it was worthwhile.

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I also offer these surge and some moisture sensor schools today, we've had over two hundred and thirty people go through this program.

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We're going to do them virtually in February. We're going to do them.

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It takes. We have. Two dates to schools, February 16th and February 17th.

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01:37:00,000 --> 01:37:07,000

One section's at 9:00 in the morning. Both days, the second section's at one p.m. in the afternoon.

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01:37:07,000 --> 01:37:17,000

Both day. Jeff, the ten. Both days. And basically what we do is go through the physics we go through, we actually build sensors as part of the class.

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You do that on your own. That's what we have one hundred dollars for.

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01:37:21,000 --> 01:37:25,000

You have to register by the 8th of February. And then we'll send the kids out.

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01:37:25,000 --> 01:37:31,000

We'll mail the kits out to everybody on the 9th. So you have time for the school.

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But it's a really intensive program to really learn how to use sensors and get you up and go really fast.

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Another opportunity is the irrigation contest. Go to our Web site to enter the contest.

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01:37:46,000 --> 01:37:51,000

This is a great opportunity to try sensors on your farm and get some feedback.

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01:37:51,000 --> 01:37:58,000

And we give out over fifty thousand dollars in prizes through the irrigation contest.

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But as part of the contest,

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01:37:59,000 --> 01:38:07,000

everybody wins because you get a report card to let you see how you did compared to everybody else without anybody else knowing how you did.

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01:38:07,000 --> 01:38:13,000

So if you think you're a good irrigator, this contest will prove it.

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01:38:13,000 --> 01:38:16,000

So I won't announce the winners, recognize the winners.

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01:38:16,000 --> 01:38:25,000

We had Chad render wind first, placing Gawne eleven point five bushels branch to enter twenty five bushels per acre.

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01:38:25,000 --> 01:38:31,000

He used five planner, watermarks, sensors and cover crops. Second place was Terry and Clay Smith.

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01:38:31,000 --> 01:38:41,000

Third place was Brandon Cain. Cody Finch won first place in rise this year, eight point seven bushels branch, two hundred forty bushel rice.

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He used Kaskade AWB, which is a new type of irrigation system.

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01:38:46,000 --> 01:38:51,000

No poly pipe, no sensors, just pure management and skill.

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01:38:51,000 --> 01:38:55,000

Manage the levee spills. And let the soul go dry.

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01:38:55,000 --> 01:39:03,000

And then reflooded just to just the right amount of water, just just just the amount of water he needed to grow really good rice crop.

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01:39:03,000 --> 01:39:07,000

So he he's really set a great example about how.

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01:39:07,000 --> 01:39:15,000

Sometimes we don't need all of these tools that the most important irrigation water management practice is management second place.

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01:39:15,000 --> 01:39:23,000

Let's assess with second place what Seth Tucker. And third place was Clint Bowles.

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01:39:23,000 --> 01:39:29,000

Then in the soybeans division, Jeremy Wiedeman first play soybeans, four point three bushels branch,

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01:39:29,000 --> 01:39:34,000

sixty four bushel acre, use minimum tillage, cover crops, high planner and mark sensors.

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Second place was John Al McGraw and third place with Sullivan Family Farms.

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Now, the interesting thing about the soybean winners is not a single one of them had watermarks sensors in their contents field,

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but they all had them in an adjacent field and they use those sensors to schedule the contest.

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Feel so great example of how you don't always need to have sensors in the field.

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01:39:58,000 --> 01:40:05,000

But if you have enough of them in adjacent deal, you can use those to manage adjacent fields, neighboring fields and get the benefits.

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01:40:05,000 --> 01:40:11,000

So you don't need sensors in every field. So brings us to phase five.

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01:40:11,000 --> 01:40:19,000

Why didn't we do this sooner face? I wish I had known how to use sensors when I first started farming.

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01:40:19,000 --> 01:40:28,000

I love watching my neighbor run around all day chasing irrigation wells, going to the lake.

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01:40:28,000 --> 01:40:37,000

Support for the mobile app, irrigation schools and irrigation contests have been provided by the checkoff funds for rice, soybeans and corn,

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01:40:37,000 --> 01:40:47,000

as well as additional support from the USDA Natural Resource and Conservation Service support support the tools I have mentioned today.

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01:40:47,000 --> 01:40:55,000

So if you'd like more information, you can visit my Web page. Give me a call, email or follow me on Twitter.

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01:40:55,000 --> 01:41:04,000

Thanks for less than. Thanks, Dr. Henry, really appreciate your presentation, you did their own irrigation.

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01:41:04,000 --> 01:41:11,000

Now, before we since we've reached the end of our recorded segments, what we want to do is before we get into the question and answer,

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01:41:11,000 --> 01:41:18,000

first thing I'd like to do is specially thank all of our presenters today and and just not for the day,

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01:41:18,000 --> 01:41:24,000

but for everything they do year round for to help improve road crop production in the state of Arkansas.

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01:41:24,000 --> 01:41:30,000

And I know it's just not them. They also have a good staff and technicians, things like it, that help them out.

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01:41:30,000 --> 01:41:34,000

We're really glad to do the things that we do.

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01:41:34,000 --> 01:41:37,000

And we also want to thank all those in the ag industry for their support.

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01:41:37,000 --> 01:41:41,000

We know if it wasn't for them, we really struggled to do some of the things we do.

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01:41:41,000 --> 01:41:45,000

So thank you to all of you to remember for your C use.

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01:41:45,000 --> 01:41:50,000

I'm going to submit them for all our production meetings are over, which is next Tuesday.

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01:41:50,000 --> 01:41:53,000

My secretary has been working on it today. I think she's called up.

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01:41:53,000 --> 01:41:58,000

So we're just gonna double check before we send everything in to make sure that we've not missed anybody.

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01:41:58,000 --> 01:42:01,000

So we're really looking forward to that.

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01:42:01,000 --> 01:42:09,000

Getting that taken care of for you and getting that senior is now as we begin the question and answer, if you haven't already remember,

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01:42:09,000 --> 01:42:16,000

either the Q&A boxes are there to go ahead and submit your questions and we'll go ahead and get started in.

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01:42:16,000 --> 01:42:23,000

The first one I have is for for Scott style. Scott, are you there?

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01:42:23,000 --> 01:42:34,000

The question I have is what percentage of the crop would you forward contract going into this year?

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01:42:34,000 --> 01:42:48,000

At this point out, I keep my percent contracted really small at this point, no more than 10 percent at this at this stage today.

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01:42:48,000 --> 01:42:55,000

OK, our next question is for for my Campbellton mike, need wakeup, quit dreaming about them donuts.

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01:42:55,000 --> 01:43:01,000

You know, they're not for you or me. My wife and my wife, neither one be happy we keep eating them.

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

So the question I have for you is everything. Yeah.

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01:43:05,000 --> 01:43:15,000

I understand. I don't either. So how often would you need to fly your drone on a field to get the best elevation for planer?

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01:43:15,000 --> 01:43:20,000

Is once a year enough? Yes. Yeah, I definitely would fly.

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01:43:20,000 --> 01:43:28,000

Soon after planting as possible so that, you know, hopefully I don't have any vegetation out there and the crops on the way or any any weeds.

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01:43:28,000 --> 01:43:36,000

But soon after planting as possible. But also if, you know, if you have a cover crop or something, you know,

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01:43:36,000 --> 01:43:44,000

it's going to be after your life in your tube and out there so that you you don't have that that covered crop.

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01:43:44,000 --> 01:43:50,000

That's influence in the heart of of that elevation reading that you're getting.

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01:43:50,000 --> 01:43:57,000

So you'll be amazed at it. But right after planning, you'll even see the rose in your in your elevation.

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01:43:57,000 --> 01:44:07,000

You'll see the heart of your rose up and down. So it's once a year as soon as you can after planting.

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01:44:07,000 --> 01:44:15,000

All right. Thanks, Mike. I had another question just pop up for you real quick, Mike, since you're still on with us.

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01:44:15,000 --> 01:44:25,000

What brand of drone did you use? The drone that I have is a phantom for RPK and a Trimbole G.P.S. unit that I put on the ground.

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And it's it's not a survey accuracy, but it's a tenth of a foot.

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01:44:32,000 --> 01:44:39,000

Is the accuracy, which is just a toupee or more than. All right.

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

Thank you very much. Now I've got one for Chris Henry. I'm assuming that's who it's for.

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

It says by irrigation timing to be put into calculator.

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01:44:49,000 --> 01:44:54,000

Do you mean the time it takes for the water to make it from one side of the field to the other?

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01:44:54,000 --> 01:45:03,000

Is that a Chris or Mike? No, that's for me. So it's that in that it's the time to complete interrogation.

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01:45:03,000 --> 01:45:07,000

So if you wanted to do less than that, if it took you 24 hours.

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01:45:07,000 --> 01:45:11,000

That's what I'm assuming. If you got, what, across the field in twelve hours, then you could use twelve hours.

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01:45:11,000 --> 01:45:18,000

But conservatively, Lee, I would use twenty four. So you could use either.

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01:45:18,000 --> 01:45:25,000

All right. Thank you, Chris. Mike, I had another one come in for you, and here is the question they have.

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01:45:25,000 --> 01:45:32,000

Do they have to have a license or are there any kind of restrictions for those want to use a drone that haven't used one in the past?

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01:45:32,000 --> 01:45:37,000

The way you were using it with the pipe planer and tying everything together. Yes.

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01:45:37,000 --> 01:45:44,000

Or a license is required if you're doing it for fees or, you know, part of your job.

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01:45:44,000 --> 01:45:54,000

You do have to have the one on one pilot's license. Even even a recreational pilot should have a license.

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01:45:54,000 --> 01:46:01,000

It's not required, but they still got to follow the same rules that we have to follow as pilots with the license.

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01:46:01,000 --> 01:46:05,000

I would encourage you to get a license even if you're not doing it.

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01:46:05,000 --> 01:46:11,000

You know, as part of your job, there's a lot of information you'll learn.

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01:46:11,000 --> 01:46:15,000

OK, thank you, Brianna. Wow. Why we're here?

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01:46:15,000 --> 01:46:20,000

Can you get on here real quick and tell everybody again what the what the Web address is for those budgets,

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01:46:20,000 --> 01:46:26,000

just in case somebody didn't get it wrote down and they have a chance to go ahead and get that done right quick.

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01:46:26,000 --> 01:46:35,000

OK, again, I suggest you go into the extension Web site at you any E x, don't you?

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And then there is a search button. And in that search button top in the crawl budgets.

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And once you have search, thus it's the first kind of ruling federal peer or so.

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01:46:47,000 --> 01:46:53,000

And if you have questions, my email is B, as in boy J.

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Watkins Sterry 80 K and X r.

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01:46:57,000 --> 01:47:02,000

S sorry. And u.a.e x da 80.

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01:47:02,000 --> 01:47:06,000

So. All right. Thank you very much, Brianna.

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01:47:06,000 --> 01:47:13,000

I've got another question here to irrigation, timing one. And I'm assuming now kind of this year probably for you.

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01:47:13,000 --> 01:47:22,000

Also, it's this. How does this irrigation timing account for making a complete irrigation cycle across the entire farm?

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01:47:22,000 --> 01:47:28,000

That's a great question. During. So that absolutely set up or you're going to use sensors.

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01:47:28,000 --> 01:47:32,000

Usually what happens is we start out with a field and manage that field.

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01:47:32,000 --> 01:47:36,000

And so that's the time to take and get water across that field.

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01:47:36,000 --> 01:47:40,000

The last plant in that field that said irrigation time.

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01:47:40,000 --> 01:47:45,000

So if you're not used, if you're going to use scents or something, what for example,

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they arrogation contest winners and soybeans didn't have a sensor in the field they were managing,

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but it was the second or third field in their cycle. So they they they time the irrigation off the scent, the field, the sensor in it.

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And then when they get done with that, they moved on to the next one and the next one.

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01:48:01,000 --> 01:48:03,000

The next one. And that's how they completed their cycle less.

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You happened to have enough capacity to irrigate every every field in your farm at the same time.

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So it gives you an idea where you're at on the water balance so that you can decide when you need to irrigate what field next.

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And then around you start over again. You assume they're all about the same time.

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01:48:19,000 --> 01:48:27,000

So you might recurse the first one a little bit sooner since, you know, they're all going to be at about the same point.

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01:48:27,000 --> 01:48:34,000

All right. Thank you, Dr. Henry. Jason, could you just go ahead real quick and give him that?

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01:48:34,000 --> 01:48:38,000

That way they can contact that they're interested in helping you out with that study.

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01:48:38,000 --> 01:48:43,000

What was that? Yeah. So I'll put it in the chat room a second as soon as I get off it.

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01:48:43,000 --> 01:48:49,000

It is ag analytics. We. There you go.

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01:48:49,000 --> 01:48:56,000

It's in the chat now. There was a touch, I say the top of it was accurate last week when I submitted that presentation.

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01:48:56,000 --> 01:49:00,000

They've updated the link since the end. And so it has one less Halfan in it for some reason.

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01:49:00,000 --> 01:49:04,000

I don't know what the change was, but it shouldn't be in everybody's chat box right now.

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01:49:04,000 --> 01:49:09,000

You should be able to click and go directly there. OK. Thank you, Jason, really appreciate it.

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01:49:09,000 --> 01:49:17,000

Dr. Henry, I have another question for you. It says, Will the irrigation schools this year be the same material as last year's school?

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01:49:17,000 --> 01:49:26,000

If so, should someone attend this? If somebody that attended last year, should they go ahead and come back this year?

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01:49:26,000 --> 01:49:30,000

I cover the same material in the class virtually as we did last year.

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01:49:30,000 --> 01:49:33,000

So you attended an irrigation school before you would need to come back.

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01:49:33,000 --> 01:49:39,000

Although I do know some people that do come back and attend the school again because they want to rehash what they learned the first time,

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01:49:39,000 --> 01:49:47,000

because we cover so much material. So you're welcome. But it's going to be the same thing twice if you come back.

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01:49:47,000 --> 01:49:51,000

OK, I have a question, another question for Scott Stiles.

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01:49:51,000 --> 01:49:55,000

Scott, if you're ready, here it is. This one's pretty good.

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01:49:55,000 --> 01:50:01,000

It says if we had a major weather event like in the Midwest, we're not hoping they have drought.

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01:50:01,000 --> 01:50:08,000

Would it be nice? Question. How high could crop prices escalate?

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01:50:08,000 --> 01:50:15,000

And what should or could we do to take advantage of this increase?

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01:50:15,000 --> 01:50:29,000

If there was a major weather event in the Midwest, you'd see prices do what they did in late 2012 and go to record highs, especially in soybeans.

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01:50:29,000 --> 01:50:36,000

And he may know see that to some, you know, to some extent in corn.

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01:50:36,000 --> 01:50:46,000

So. I guess my advice would be not be a aggressive marketer, preplan and just.

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01:50:46,000 --> 01:50:56,000

And maybe maybe market more on a.

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01:50:56,000 --> 01:51:05,000

Maybe, you know, more toward made yeard. And then see at that stage by June or early June, early July.

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01:51:05,000 --> 01:51:14,000

See what the potential of a crop looks like and determine at that point how aggressive you need to be.

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01:51:14,000 --> 01:51:18,000

All right. Appreciate your answer very much at this time.

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01:51:18,000 --> 01:51:21,000

That's all the questions that we had that were turned in today.

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01:51:21,000 --> 01:51:29,000

So what I'm going to do is thank everybody for being on today, being part of this program.

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01:51:29,000 --> 01:51:35,000

If there is a question that you weren't able or you can think of that you would like to ask after we get off.

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01:51:35,000 --> 01:51:39,000

Please don't hesitate to contact us. Remember, that's what we're here for.

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01:51:39,000 --> 01:51:45,000

Also, remember, you got a good resource in every county that we're located in every county.

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01:51:45,000 --> 01:51:50,000

You've got a casting agent there that's willing to help you reach out to.

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01:51:50,000 --> 01:51:55,000

We're very appreciative of the things they do force and the way we will work together.

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01:51:55,000 --> 01:51:57,000

So there's no more questions.

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01:51:57,000 --> 01:52:05,000

I just want to thank you for joining us today for this virtual marketing, new technologies in irrigation production, part of this.

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01:52:05,000 --> 01:52:09,000

We hope you enjoyed it. Course. Now, you know, we've got one more to go.

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01:52:09,000 --> 01:52:13,000

And in this series, and it's going to be next Tuesday, they were the second is going to be the.

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01:52:13,000 --> 01:52:20,000

So we've been production part of it. If anybody's not got registered, you still have the opportunity to do that.

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01:52:20,000 --> 01:54:16,480

It is open now. And we want to thank all of you for being part of this today and.