

Agricultural Innovation Board Meeting  
March 27, 2023 1pm-3:43pm  
Transcript Text

0:0:0.0 --> 0:0:1.110

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

All right, very start.

0:0:2.490 --> 0:0:11.560

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yep, alright, well, good afternoon everybody. Welcome to the March 27, 2023 meeting of the Agricultural Innovation Board.

0:0:13.530 --> 0:0:22.230

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We'll go ahead and do introductions for folks here in the room 1st and then we'll go to the folks who are joining virtually.

0:0:22.910 --> 0:0:28.30

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Start off. My name is Steven Dwinell. I'm the director of the Public Health Agriculture Resource management division.

0:0:28.740 --> 0:0:30.190

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

For the Vermont Agency of.

0:0:30.930 --> 0:0:38.600

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I reculture food markets and let's go this way. Park Parmley, I've resource management specialist with the agency event.

0:0:39.620 --> 0:0:45.840

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Joining the chairman Board member across control, if Hubert, Deputy Director, Farm Division.

0:0:46.530 --> 0:0:51.530

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

You see back Stephanie Smith, also deputy director with my agency bag.

0:0:52.570 --> 0:0:57.200

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I'm working Griffiths and the agrochemical program manager with the agency.

0:0:59.90 --> 0:1:1.640

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Steve Schubart, board member.

0:1:2.0 --> 0:1:3.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, representing the beef industry.

0:1:5.190 --> 0:1:10.980

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Wendy Sue Harper, board member soil scientist representing the soil biology position.

0:1:12.190 --> 0:1:18.920

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Terry Bradshaw, University of Vermont Catamount Farm representing fruit and vegetable growers, among other things, for member.

0:1:19.780 --> 0:1:25.650

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OK. And that's good. More you want to call on people and probably be easier. Sure. Yep, Zach.

0:1:27.160 --> 0:1:29.560

Szczukowski, Zach

Zach Schikowski agency, lyric culture.

0:1:32.110 --> 0:1:32.630

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Hey there.

0:1:39.110 --> 0:1:40.20

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Heathers new era.

0:1:42.310 --> 0:1:44.570

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Welcome back, friends. Go ahead.

0:1:47.410 --> 0:1:49.680

Fred Putnam (Guest)

Fred Putnam with the Vermont Beekeepers Association.

0:1:53.270 --> 0:1:53.790

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Claire.

0:1:55.710 --> 0:2:0.200

Clara Ayer

Yep, Clara Air Board member representing conventional dairy.

0:2:1.820 --> 0:2:3.690

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Thank you, Sir. Have a clearance color.

0:2:5.920 --> 0:2:9.50

Cutler, Clarice

Hi there, this is Clarice Cutler. Where the agency and natural resources?

0:2:10.760 --> 0:2:11.800

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And Sarah?

0:2:15.720 --> 0:2:20.810

Owen, Sarah

Hi, Sarah. When Department of Health. I'm sorry, I'm not in person today.

0:2:24.340 --> 0:2:28.720

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Thanks. And that's that everyone with that, that's that's all. OK.

0:2:30.980 --> 0:2:40.150

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Did Clarice did clarify stuff? Yeah, yeah, OK, well, welcome, everybody. We have an agenda which has been posted.

0:2:41.400 --> 0:2:44.330

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To the website and everyone should have had an opportunity to review it.

0:2:46.580 --> 0:2:54.90

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So we're going to go over once the summary from the previous meeting, see if anybody has any additions to that.

0:2:55.80 --> 0:3:0.880

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And then a quick review of action items and I'll let I'll turn that over to Morgan.

0:3:1.530 --> 0:3:1.980

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yep.

0:3:3.270 --> 0:3:4.80

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I'm trying to show this.

0:3:6.820 --> 0:3:19.330

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So I sent out the minutes from last time. I didn't hear anything back. But does anybody in here have any additions or anything from those minutes from our last meeting? Anyone on the phone?

0:3:21.480 --> 0:3:51.680

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Cool. So actually we were pretty good. We got some great contributions of references for new to teams from one to two, Terry, Clarence and some beekeepers. And so we're going to hopefully go over some of those today, but by all means that can be remain an open action item. So you can, if you find more or if we skipped over one that you really wanted to hear about and wanted us to.

0:3:51.770 --> 0:3:59.110

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Dig deeper into just remind us or send a new one along and we'll look into it.

0:4:0.140 --> 0:4:4.740

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I'm also just a reminder for those eligible for per diem reimbursements.

0:4:5.980 --> 0:4:22.320

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You can reach out to me with any umm, if you need the form again or the process and I think I've reached out to you if you are eligible and so then just make sure you hand in those for you get some inexact for your appreciation of participation.

0:4:26.120 --> 0:4:30.550

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OK. So next we'll do a farm activities update.

0:4:31.750 --> 0:4:34.130

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Today we wanna go first this time, sure.

0:4:34.770 --> 0:4:59.40

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, there are a couple things happening over on the pesticide stage of form. We will be putting out soon opposing for 1/5 field agent. We currently have 4 field agents and we'll have 5 for this coming season. There will be a time of training for the 5th field agent and they will have their own geographic territory.

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66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Because of the the important work the IB is doing, but also all the additions to our more robust permitting process and the recently amended pesticide rule, there's a lot of additional requirements that the Form division is going to have to.

0:5:18.490 --> 0:5:24.750

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Complete and undertake and it will be great to have a field agent for helping us out with that.

0:5:25.820 --> 0:5:29.980

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Ohh we have an end of year review that.

0:5:30.880 --> 0:5:37.670

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Has a state lead agency. We had to go through with the EPA every year, just concluded that today.

0:5:38.940 --> 0:5:55.930

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We passed with flying colors, which is great. Our enforcement work is also doing very well and that was reviewed by the EPA and we're very happy to undergo these reviews. That definitely feels good to know that the work we're doing is being noticed by the EPA.

0:5:57.110 --> 0:6:2.700

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Speaking of the rule, are pesticide rule has been in effect for one month and three days.

0:6:3.860 --> 0:6:22.450

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And we are learning the ends and outs of of the various components of the rule with such a quick turn around onto the field season because it went into effect February 24th and final season is just getting underway here we are issuing.

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Uh, our our right away applications onto the website for public comment, which is new pursuant to the rule. We did that last year with the permits and now we have the applications up.

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And those everyone's interested can be found on our website are the public comment page.

0:6:43.480 --> 0:6:51.130

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We're also gonna be engaging in multiple other permit activities, including looking at adults had permits for mosquitoes.

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Uh, potentially terrestrial and bases of plant species permits, which are also new Golf golf course permits are being issued right now. We just did 24 issuance and we have 6068 golf courses. So we're gonna have a couple more permits coming down.

0:7:11.270 --> 0:7:18.610

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And if anyone is interested in learning more about the permitting programs that the form new Vision employs, please don't hesitate to get in contact.

0:7:19.340 --> 0:7:22.270

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If anyone has any questions about the amended rule.

0:7:23.10 --> 0:7:40.630

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Or how we plan on rolling out some of the components of that. Again, please don't hesitate to get in contact with giving a lot of educational outreach and public engagement. Speaking as spoke over at Pioneer days over Bordeaux with Jonathan.

0:7:41.850 --> 0:7:43.70

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And hopefully everyone learned.

0:7:44.60 --> 0:7:46.910

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Something. If not, they at least got pesticide applicator credits.

0:7:47.600 --> 0:7:53.670

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So please don't hesitate to reach out again if anyone wants any personalized.

0:7:54.250 --> 0:7:58.340

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Ohh, about the the role or implementation.

0:8:0.370 --> 0:8:2.340

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Thank you. Very questions for Dave.

0:8:4.960 --> 0:8:18.540

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OK, OK. Stephanie here as a follow up to what Dave provided, I believe beginning and on April and April, the core exams going to include elements of the new pesticide rule.

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Very exciting.

0:8:21.700 --> 0:8:39.960

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We're hoping to have an article about that in on our blog by the end of the the week, which is 31st, but do you know? So when is the new test getting to be in place? I have two staff, maybe three staff who are taking the test in April on April 20th by chance. Yeah. Yeah, me too.

0:8:41.640 --> 0:9:10.330

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And they're like, why do we study? Yeah, that it will be in play at that time. And I believe that additions and the manual are up on our website already. So it has pollinator and insert. Yeah. So make sure they've got the insert. Yeah. And it's available on the website under the certifications and training. I'm sure Sarah Kingsley got that figured out. But yeah, yeah, yeah, I'm sure too. Yeah. So there's that. That's exciting also.

0:9:10.450 --> 0:9:38.490

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Of seed folks within the agency have met with the regulatory staff or with the American Seed Trade Association to see regulatory and testing division at USDA, the Association of official seed certifying agencies and the seed Innovation and Protection Alliance, as well as others in the industry. So like we've had a bunch of meetings recently discussing seed trades and seed treatments.

0:9:39.800 --> 0:10:10.230

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We've also and also so see you certification protection of intellectual property, plant variety, protection and patent protection for the design and the process of the development of various plant varieties. So it's really complicated and I can't say that I understand it all, but we've also met, as I said with the distributors and industry folks and we've discussed each treatments and technology we did learn that 90% of the currency that's sold is treated with an array of active ingredients.

0:10:10.300 --> 0:10:12.340

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Some that include fungicides and insecticides.

0:10:13.660 --> 0:10:15.630

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Nematicides and bio enhancers.

0:10:17.650 --> 0:10:46.220

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Let's see other things. It's that's for that's corn, soybean, however, and that comes out of the manufacturer of the individual. You know, the seek treatment company just broadly that usually is delivered to distributors in state already treated. There's about 2.6% of corn seeds specifically that's delivered in the state of Vermont or sold nationally that is untreated.

0:10:46.380 --> 0:10:55.410

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And it doesn't have to be trades, typically for organic. And then there's a really, really small percentage of corn seed that has GE trait, but it's not.

0:10:56.800 --> 0:11:26.90

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Is not treated seed on that is also sold. So those are. Those are the you know for corn it's mostly treated seed. GTO seeds predictions have to be made for ordering. The ordering process starts. Let's say let's start with 2022 in the fall and that's for. So you make a prediction of what you're going to need in your state that she is grown out just season and then it's treated for 2024. So that's kind of the.

0:11:26.190 --> 0:11:35.320

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Time frame under which were we operate, I will encourage Jonathan Chamberlain to pitch in by get these wrong because he's very close to this process.

0:11:37.260 --> 0:12:7.510

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The some of the challenges that are faced in state with respect to ordering and advance, you know, getting your seat in advance and ordering it and then see treatments and so on and so forth is related to the variety as the maturity of the seeds. So if we have a really wet spring, then farmers are typically going to request something with a short shorter maturity period. So 72 days and that's all in flux. And so it requires the distributors in the states that have relationships with folks outside of the state and with the.

0:12:7.610 --> 0:12:40.600

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Manufacturers let me again, I'm manufacturers to see that might not be the right way to call it. Call them so that we there's flexibility and being able to obtain that seed that's going to meet the needs of Vermonters in the state. We plant corn in our state to support the dairy industry generally and it is to feed the dairy cattle. If if our farmers are unable, this is a generalization, it's not specific, you know this is a broad generalization there'll be if we don't produce the corner. If the farmers don't produce the corn, then they're out the feed.

0:12:40.840 --> 0:12:41.690

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For those animals.

0:12:43.290 --> 0:12:50.470

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And then they have to buy feed, whereas other places in the country they just decide not to plant in a given year and it's OK for them not to plant.

0:12:50.570 --> 0:13:18.400

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm. Let's see here. 90% of the soybean that is sold nationally I believe is untreated. However, it will receive treatment downstream at a distributor. So and you're more able to get an all the part kind of a treatment on the soybean seed, whereas on corn, you don't actually have that that much of an opportunity or it probably know closer to 0 opportunity for that.

0:13:20.400 --> 0:13:27.960

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Let's see here. So that's kind of the broad update on these based on the meetings of the agency, you've had some other items.

0:13:29.510 --> 0:13:36.900

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I wanted to mention is the Pesticides Stewardship Alliance. There's a meeting coming up with the board to discuss.

0:13:38.220 --> 0:13:47.160

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How to reduce the disposal of the pesticides and for the homeowner, some of the ideas that are being floated around is right sizing the purchases.

0:13:48.330 --> 0:14:18.840

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Ensure that homeowners are making the proper selection, so this is kind of an educational type of need and opportunity. But ensure that again, homeowners are making the right selection for the pesticides that they're purchasing, making sure that they understand the storage requirements for the pesticide so that that product maintains its efficacy and that empty homeowner product containers can actually be thrown away. They do not need to be brought to a hazardous household waste collection of events. Those can be disposed of. And then there's also.

0:14:18.960 --> 0:14:48.550

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Opportunities to education outreach with commercial applicators and pesticide dealers in some of the suggestions that are being made or making sure that those folks understand what products they actually have in their possession and whether or not they actually need to buy more, the proper handling of rinsate and then just minimizing waste. You know, if you have a project in your possession using that product, then you don't have to dispose of it. But I can assist. I can help us out. So those are my updates.

0:14:48.970 --> 0:14:55.40

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yes. Stephanie, were you gonna talk about anymore or you might be later in the the agenda about the?

0:14:57.680 --> 0:14:59.320

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The seed reports reports.

0:15:0.520 --> 0:15:17.960

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We put that in our plan for next next, OK. Yeah. So we have a more time. Yeah, we we were collecting up until the end of last week. So we don't have the report of prepared and we're down a person. So hopefully by next, OK next meeting we'll have all that information ready for the board.

0:15:19.900 --> 0:15:22.710

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A board members have any questions for Stephanie.

0:15:24.450 --> 0:15:24.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Report.

0:15:29.560 --> 0:15:37.810

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OK. Well, let's go ahead and we're able to establish communication with Heather. I think, Heather, you there?

0:15:38.870 --> 0:15:40.680

Heather Darby

Yeah, I am. Thank you.

0:15:40.300 --> 0:15:40.740

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Ask.

0:15:41.990 --> 0:15:44.150

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, so I think you're up.

0:15:44.660 --> 0:15:46.150

Heather Darby

OK, just give me.

0:15:47.600 --> 0:15:49.190

Heather Darby

Second here.

0:15:50.350 --> 0:15:51.880

Heather Darby

I wanna make sure I'm sure.

0:15:58.500 --> 0:15:59.290

Heather Darby

Right.

0:16:0.360 --> 0:16:5.70

Heather Darby

Umm is that in full presenter mode? Not.

0:16:6.430 --> 0:16:6.830

Heather Darby

Or not.

0:16:5.860 --> 0:16:7.930

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yep. Yeah. We could just see the slide. Yeah.

0:16:8.720 --> 0:16:11.0

Heather Darby

OK, great. Well, thank you.

0:16:11.980 --> 0:16:20.440

Heather Darby

Uh, very much for having me today. I'm not sure if I know everyone. I'll just introduce myself quickly.

I'm.

0:16:22.330 --> 0:16:24.10

Heather Darby  
Screen on here not.

0:16:23.10 --> 0:16:25.900

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0  
Haven't you kind of going in and out a little bit?

0:16:25.600 --> 0:16:26.930

Heather Darby  
Yeah, alright.

0:16:28.40 --> 0:16:31.130

Heather Darby  
Umm, I'll try to get closer here my computers.

0:16:32.230 --> 0:16:32.930

Heather Darby  
Is that better?

0:16:33.640 --> 0:16:34.20

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0  
Yes.

0:16:34.830 --> 0:16:35.240

Heather Darby  
OK.

0:16:37.10 --> 0:16:57.480

Heather Darby  
Yeah. Thanks for having me today. I'm Heather Darby. I am in a an agronomist and soil specialist at the University of Vermont Extension and officially on Thursday will mark my 20 year anniversary with the University of Vermont. So.

0:16:58.580 --> 0:17:5.750

Heather Darby  
I have been serving Vermonters and Vermont farmers and Vermont communities in this role.

0:17:6.450 --> 0:17:8.180

Heather Darby  
For for quite a while now.

0:17:8.990 --> 0:17:15.620

Heather Darby  
Umm. And I was. I became, I will say. Interested in.

0:17:16.400 --> 0:17:21.690

Heather Darby  
Working with farmers on neonics seed treatments.

0:17:23.670 --> 0:17:25.120

Heather Darby  
16 years ago.

0:17:26.480 --> 0:17:38.610

Heather Darby  
Actually, a long time ago, when they first started came on the scene and farmers were asking at the time a lot about the seed treatments.

0:17:39.260 --> 0:18:10.110

Heather Darby  
That were at the time optional. You know, the farmers could actually decide if they wanted the seed to come treated with insecticide or not. And at what rate and the type. And so at that time, we did quite a bit of education early on with the farming community around insecticide seat treatments and what we were.

0:18:10.540 --> 0:18:14.420

Heather Darby  
Moving from was insecticides.

0:18:15.700 --> 0:18:30.570

Heather Darby  
That were put into the planner box or in the insecticide boxes and now moving away from that to being able to have the insecticide on the seed.

0:18:32.280 --> 0:18:38.630

Heather Darby  
And you know at that time, I would say that the majority of the farmers were using.

0:18:39.810 --> 0:18:52.240

Heather Darby  
You know, they had insecticide boxes on their planners and they were using insecticides that they would, you know, essentially buy and dump into the box before they would plant.

0:18:53.120 --> 0:19:2.940

Heather Darby  
So there were insecticides used prior to seed treatment insecticidal seed treatments.

0:19:3.630 --> 0:19:10.10

Heather Darby  
And, umm, and so this was really a shift and what the farmers are really asking about was.

0:19:10.530 --> 0:19:26.130

Heather Darby  
Umm, you know if it would be better or worse, what it actually control some of the insect pests that they were controlling with the insecticide that was added to the planner box.

0:19:27.410 --> 0:19:37.930

Heather Darby

But again, it was a choice. It cost more and it started to increase the cost of the of the seed. So you know, people were a little uncertain. It was new.

0:19:39.110 --> 0:19:53.500

Heather Darby

I think it was maybe a year or two and again this is in Vermont clearly could be very different than the rest of the the country, but a probably about a year or two later, more like 2 probably I'm sure.

0:19:53.800 --> 0:20:11.560

Heather Darby

Umm, it all of a sudden didn't really become optional, right? The seed was gonna come treated. And what was the option was you could sort of select the rate you could get the 2:50 or the 12:50 rate of insecticide. So that.

0:20:12.220 --> 0:20:19.430

Heather Darby

That was what changed. It wasn't. UM, whether you wanted it on the seat or not, it was. What rate did you want?

0:20:20.110 --> 0:20:46.710

Heather Darby

So you know what the farmers used to have a choice around had changed and now you know, really, they were just gonna get the seed that way. And you know when sort of asking some of the, you know, the C dealers that you know, was really out of their hands. Clearly the local seed dealers, you know, this is really at sort of the, I guess, national level, maybe even international level for some of the companies there's really around.

0:20:47.290 --> 0:21:16.570

Heather Darby

Umm, you know, management of the seed lots and etcetera. So you know it was sort of like this was easier for them to manage what was happening now of course I think Stephanie mentioned you know you could you could request seed way ahead of time and early on you you could way ahead of time probably be more likely to be able to get see that didn't have insecticide but that you know that really quickly changed.

0:21:16.920 --> 0:21:26.50

Heather Darby

Where as was already mentioned, it's pretty difficult now to get seed on treated and and actually.

0:21:26.730 --> 0:21:27.220

Heather Darby

Umm.

0:21:28.580 --> 0:21:37.520

Heather Darby

I it it's not only very difficult, but it's considered a liability to not have it treated in the eyes of the seed companies.

0:21:38.50 --> 0:21:48.570

Heather Darby

Umm. And so we can maybe talk a little bit about that more. And I really wanna get my uh, facts straight because I I was able to obtain untreated.

0:21:49.520 --> 0:22:6.280

Heather Darby

Seed for the projects. I'm gonna talk about, but I will say that it wasn't without a lot of hesitation and some sign off from me, from me about, you know, the the risk, right, and liabilities of not having that, that treatment and knowing what that could mean.

0:22:6.890 --> 0:22:8.220

Heather Darby

So anyway, umm.

0:22:8.940 --> 0:22:11.880

Heather Darby

So so here we are, you know.

0:22:12.820 --> 0:22:21.600

Heather Darby

Almost as already noted, pretty much all the seed is treated that comes into the state. You know, there was a note about, you know, a very small percentage.

0:22:22.440 --> 0:22:27.800

Heather Darby

Used on, you know, organic farms or, you know, there are maybe a farm.

0:22:28.960 --> 0:22:38.650

Heather Darby

Planting seed without treatment and the difficulty there. I think for some of the farmers on top of that, which I think Stephanie mentioned is just.

0:22:39.920 --> 0:22:50.850

Heather Darby

Most farmers still want fungicide on their on their seed, even if maybe they don't want insecticide. And that's that's almost impossible actually to get.

0:22:51.300 --> 0:22:54.900

Heather Darby

Umm, you know you can get completely untreated seed.

0:22:55.690 --> 0:23:2.260

Heather Darby

Very limited what you can get and like already mentioned, a lot of inflexibility. If that doesn't work out.

0:23:3.400 --> 0:23:6.930

Heather Darby

But to be able to get seed that Jess has fungicide on it.

0:23:7.590 --> 0:23:10.430

Heather Darby

Is very, very difficult. So so then.

0:23:11.110 --> 0:23:30.60

Heather Darby

You know, for farms that have some interest here, they're then trying to do this treatment on their own. That's not really the best either. So there's a lot of things sort of surfacing here as as we're hearing. But I will say we, we haven't done a lot around.

0:23:30.880 --> 0:23:35.850

Heather Darby

Education to farmers in this area, I I do feel like early on.

0:23:37.340 --> 0:23:40.650

Heather Darby

A lot of people thought that this was definitely better.

0:23:41.540 --> 0:23:50.460

Heather Darby

And I I chuckle a little bit because, you know, before we had farmers kind of handling all these insecticides on their own, dumping them into the boxes.

0:23:51.640 --> 0:24:20.310

Heather Darby

You know some of those insecticides are actually, you know, they're completely banned at this point. So, you know, thinking about application rates and how those were maybe being used. I I think you know, many people thought that this was really a good kind of good move from a safety perspective, rates, things like that. But again, the lack of ability to sort of make the choice is really a pretty significant factor here that we're talking about.

0:24:21.740 --> 0:24:22.570

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Hey, Heather.

0:24:21.600 --> 0:24:23.530

Heather Darby

So yeah.

0:24:24.300 --> 0:24:28.410

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, this is Steve. Can I ask a couple questions for now while you just talked about real quick?

0:24:28.340 --> 0:24:28.760

Heather Darby

Sure.

0:24:30.30 --> 0:24:41.160

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

What were the products that were being used and what rates were being applied and what percentage of acreage you think people were using these materials on?

0:24:40.650 --> 0:24:43.40

Heather Darby

Ohh yeah. You mean the old old products?

0:24:43.460 --> 0:24:45.970

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, yeah, yeah. The prior to the.

0:24:43.720 --> 0:24:46.70

Heather Darby

Umm, you know, I I don't.

0:24:46.840 --> 0:24:54.440

Heather Darby

I don't remember all of them, Steve. I'd have to look back, but of course, lowers ban was probably the most popular.

0:25:5.710 --> 0:25:6.140

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK.

0:24:56.90 --> 0:25:26.210

Heather Darby

Insecticide that was used at least in much of my work. That's what people were using. I'm sure there were other products as well. I'd have to look back at at the rates, you know exactly it was. It's kind of like using fertilizer in a way on a planner. You put it in this box and you kind of adjust the planner to put out certain rates. It definitely wouldn't be as fine, you know, as a seed treatment, coding for sure. But I'd have to look back and.

0:25:26.310 --> 0:25:27.580

Heather Darby

Get that information for you.

0:25:29.90 --> 0:25:30.190

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK. Thank. Thank you.

0:25:30.690 --> 0:25:33.290

Heather Darby

Yep. Alright so.

0:25:33.990 --> 0:25:42.360

Heather Darby

You know, this is a topic that clearly is on all of our minds, not just here in Vermont but across the country and the globe.



0:25:43.70 --> 0:25:44.520

Heather Darby  
And you know I.

0:25:45.170 --> 0:25:57.860

Heather Darby  
I realized just telling you the history, at least that I have here, that I also personally, you know, had not done a great job talking about.

0:25:58.590 --> 0:26:9.930

Heather Darby  
You know the the risks of of using these. We talked a lot about it when people were putting the insecticides in the boxes. You know, I'm like wearing safety equipment.

0:26:10.330 --> 0:26:20.910

Heather Darby  
Umm and and things like that. But certainly I feel like we've done a a far, you know, less of a job with as far as seed treatments go and.

0:26:22.210 --> 0:26:40.560

Heather Darby  
Two were almost three years ago now I wrote a a grant so that we could receive some funds to be able to really focus on education, risk management, educating farmers about these seed treatments, you know, sometimes.

0:26:41.630 --> 0:26:42.240

Heather Darby  
Umm.

0:26:43.650 --> 0:27:4.300

Heather Darby  
Now people don't always know exactly the details of these seed tree seed treatments, and we haven't always done a really great job of of educating people around this. So I knew that was the case and and we wrote this grant back in. I want to say it was 2019.

0:27:6.290 --> 0:27:34.690

Heather Darby  
And then finally, you know, Fast forward to 2022, we actually received the grant. So normally you know when you write a grant, most people know within a year you're you, you know within a few months you know if you got it. And then within a year, you're starting on it. But there was COVID and all kinds of sort of logistical things happening. I think at the EPA, which set them back, but we finally did receive.

0:27:34.850 --> 0:27:39.260

Heather Darby  
Some funding from the EPA to put a focus on education.

0:27:40.20 --> 0:28:10.530

Heather Darby

And and outreach around NEO neck treated seed. And I will say having you know obviously worked with farmers for a long time, but also being closely involved with the Champlain Valley Farmers Coalition, the Farmers Watershed Alliance and a couple of other farmer groups, they have also highlighted this as a priority for them. And so you know, it was very well lined between what we knew.

0:28:10.620 --> 0:28:19.330

Heather Darby

We really needed to do through the university and extension and what the farmers knew they needed to really learn more about.

0:28:20.480 --> 0:28:21.120

Heather Darby

So.

0:28:24.220 --> 0:28:27.20

Heather Darby

Let's see here. I don't something is.

0:28:28.630 --> 0:28:30.850

Heather Darby

Sorry there. Now you can see that.

0:28:31.990 --> 0:28:50.190

Heather Darby

So let me go to the the EPA grant. So again, I just wanna be really clear that this is an education grant, an outreach grant that that really is focused on farmer education. And you know we have a webinar series planned we have.

0:28:50.950 --> 0:29:21.360

Heather Darby

On Farm field days, we have fact sheets that were just about ready to release out to our corn and soybean growers. A number of presentations that were putting together so that we are able to go out into the community at the field days at the conferences during the winter and really sort of push this to the top of education to, to farmers. And then we also have plans.

0:29:21.630 --> 0:29:23.950

Heather Darby

To really be working one-on-one.

0:29:24.690 --> 0:29:50.760

Heather Darby

Umm, with farmers around, you know, risk management identification, etcetera. We also are planning, we had planned to do some field demonstrations with farmers looking at treated seed versus untreated seed and this is just untreated with the neonics which I was able to get, but not without a lot of.

0:29:51.680 --> 0:30:7.30

Heather Darby

Not without a lot of work. I will say that. So we will be going out on 6 farms to implement these these trials or they're really just they're demonstrations. So we can go out and look at, you know impacts.

0:30:7.690 --> 0:30:8.750

Heather Darby

One way or the other.

0:30:9.660 --> 0:30:21.660

Heather Darby

Umm. And we hope that, you know highlighting this and the reach that we have in our extension program will really begin to to bring this to the top of peoples.

0:30:22.290 --> 0:30:32.380

Heather Darby

You know, thoughts, minds really getting some conversation going here and thinking about what we can do better, how we can minimize risk.

0:30:32.950 --> 0:30:37.380

Heather Darby

Umm and hopefully moving forward with some.

0:30:38.120 --> 0:30:43.410

Heather Darby

Some answer solutions you know, I think everybody is heard over and over again this is.

0:30:44.120 --> 0:30:45.360

Heather Darby

A little bit difficult.

0:30:46.500 --> 0:30:49.170

Heather Darby

But in the least, if people don't know.

0:30:49.970 --> 0:30:57.940

Heather Darby

Uh. Then you know we're all. We're all at risk there. So educating is our number one goal right now.

0:30:59.440 --> 0:31:0.830

Heather Darby

All right. Let's see here.

0:31:2.680 --> 0:31:23.400

Heather Darby

Never use this way is OK, so I mean the education part. You know we're that's what we do in extension. I have a a really broad reach you know both across the state and especially with our dairy and crop farmers that's where most of my time and all my staff time is spent.

0:31:23.980 --> 0:31:27.450

Heather Darby

Umm so I feel positive that you know.

0:31:28.710 --> 0:31:38.640

Heather Darby

Working on this will help. Really, really raise awareness and hopefully create conversations that can move us forward collectively.

0:31:40.890 --> 0:31:52.710

Heather Darby

That's my hope anyway. OK. So as far as research goes, we do have a couple of items that were slated to do and I wanted to let people know about those.

0:31:53.790 --> 0:31:54.600

Heather Darby

So with.

0:31:55.860 --> 0:31:56.300

Heather Darby

Yeah.

0:31:53.380 --> 0:31:56.960

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Heather, I got a quick question, if I can cut in. This is Terry.

0:31:57.390 --> 0:31:58.40

Heather Darby

Hey, Terry.

0:31:58.830 --> 0:32:2.750

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Hi I think we're gonna see you tomorrow afternoon too, hopefully anyway.

0:32:4.790 --> 0:32:21.880

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Education. Right? When I teach a class, I've got my my slide deck and my readings and everything kind of ready to go. And I have a sense for what I'm going to cover in terms of what what I want people to learn. And one thing I'm wondering is, with this particular project.

0:32:23.380 --> 0:32:28.910

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

What is it that we're wanting the farmers to learn out of this or do we know that yet?

0:32:29.860 --> 0:32:48.720

Heather Darby

Yes. So we have set up a, you know sort of learning objectives and goals through the grant. I guess I didn't list those here probably should have. And so you know some of those things range from what are you even trying to control with these insecticides, what are their life cycles.

0:32:49.850 --> 0:32:54.200

Heather Darby

Et cetera to you know what are.

0:32:55.420 --> 0:33:25.30

Heather Darby

You know, sort of environmental implications of using this particular pesticide and pesticides in general. I talked about risk management. What are ways to reduce pesticide use if possible, and also ways to reduce any like off target impacts? What are the other impacts that, you know, these pesticides have outside of your farm? So, you know, that's just sort of rattling off some of the fact sheets and presentations.

0:33:25.110 --> 0:33:28.540

Heather Darby

We're putting together for this for this group.

0:33:31.0 --> 0:33:31.800

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK. Thanks.

0:33:35.10 --> 0:33:36.460

Heather Darby

OK.

0:33:38.640 --> 0:33:39.230

Heather Darby

Next.

0:33:40.770 --> 0:34:1.970

Heather Darby

Right. So through the demonstrations, you know, we're gonna be looking at plant stands primarily will be out there doing some other scouting that we'll talk about really to show farmers pest pressures especially wire worms in particular. Those are kind of the easiest really to scout for.

0:34:3.540 --> 0:34:14.430

Heather Darby

Helping them understand where these pests can be, you know quite a significant issue where we've seen them have been issues we're gonna be.

0:34:16.190 --> 0:34:27.190

Heather Darby

Planting the corn, as I said, treated it untreated, looking at stands primarily looking for pest damage. Just really to be able to show an educate the farmers.

0:34:27.980 --> 0:34:29.930

Heather Darby

So again, there's no real.

0:34:31.30 --> 0:34:35.500

Heather Darby

That we can't do an analysis on any of this, it's not replicated.

0:34:36.70 --> 0:34:41.490

Heather Darby

Umm, you know, it's really out there for opportunity and demonstrations.

0:34:42.720 --> 0:34:49.20

Heather Darby

But we are and have recently been funding to look at.

0:34:49.650 --> 0:34:54.830

Heather Darby

Umm neonics, that may be moving from.

0:34:55.590 --> 0:35:26.720

Heather Darby

Cornfields, you know, into surface water, either through a surface runoff or sub surface tile drains at a on farm site that we have called Discovery Acres, which is located in Saint Albans, go to that slide.

There's a picture of it here in the corner. So this project, which is led by myself and Joshua Faulkner at the University of Vermont.

0:35:27.90 --> 0:35:39.640

Heather Darby

Is implemented at the Bassett Farm in Saint Albans Bay on the Jewett Brook watershed. You know, the primary purpose of this is to evaluate.

0:35:41.220 --> 0:35:48.300

Heather Darby

Best management practices that would reduce agricultural impact on water quality.

0:35:49.20 --> 0:36:17.220

Heather Darby

So we're looking at a series of best management practices on tile drained and not tile drained field so you can see we have two tile drained micro watersheds, we're calling them and two that are not tile drain and we're collecting surface runoff and then we're collecting water from the tiles as well. And in a grant that was just awarded to us.

0:36:17.990 --> 0:36:27.860

Heather Darby

From the Lake Champlain Basin program, we will be looking at neonicotinoids in the surface and subsurface water.

0:36:31.80 --> 0:36:43.60

Heather Darby

Probably starting this fall, the grant has been funded, but all the paperwork isn't in place, so I imagine we will not start sampling for the neonics until this fall.

0:36:43.960 --> 0:37:13.430

Heather Darby

But we will be sampling again in surface and subsurface water. You can see here we have funds to take 20 samples a year, which is roughly about four or five times during the season. So you know our plan is to sample before we plant after we plant about two months into planning and then again at the end of the season following harvest and that will be in surface and subsurface.

0:37:13.870 --> 0:37:14.210

Heather Darby

Water.

0:37:14.980 --> 0:37:23.170

Heather Darby

So we do have funds to start looking at geonic movement ohh cross, surface and subsurface.

0:37:25.530 --> 0:37:27.620

Heather Darby

Alright and.

0:37:28.690 --> 0:37:29.250

Heather Darby

See here.

0:37:35.720 --> 0:37:39.310

Heather Darby

All right. So then we also want to look at.

0:37:41.980 --> 0:37:51.190

Heather Darby

Some replicated trials which we will be putting into place up in alburg at the border View Research Farm this spring.

0:37:51.890 --> 0:38:0.250

Heather Darby

And at that site, we will be looking at treated and untreated seed, same variety that will have out on the demonstration plots.

0:38:0.920 --> 0:38:9.550

Heather Darby

Will be planting the corn across 6 planning dates essentially to be trying to make sure we capture.

0:38:10.410 --> 0:38:24.940

Heather Darby

The seed corn maggot peak flight and we will be looking at yields of corn stands and hopefully if we get some additional funding, we'll also be looking at.

0:38:27.40 --> 0:38:36.660

Heather Darby

They neonics in the soil and how long they are there across the season and across multiple years.

0:38:37.490 --> 0:38:45.610

Heather Darby

So this particular spot that the trial will be initiated has not had any neonics.

0:38:46.270 --> 0:38:59.620

Heather Darby

Umm in this site for well, at least 20 years, as long as I have been doing work there. So we would consider it at least in the soil neonet free site.

0:39:0.270 --> 0:39:6.840

Heather Darby

And that way we can hopefully not have too much noise from like past applications.

0:39:7.900 --> 0:39:12.50

Heather Darby

So we are gearing up to initiate this trial.

0:39:12.960 --> 0:39:14.760

Heather Darby

Pretty soon now about a month.

0:39:16.10 --> 0:39:20.880

Heather Darby

All right, so let's see if I have anything else on the research.

0:39:21.930 --> 0:39:30.460

Heather Darby

Yeah. So this is just a few details around what things we're gonna be looking at as far as you know, the pest pest damage.

0:39:31.150 --> 0:39:31.940

Heather Darby

And umm.

0:39:33.370 --> 0:39:35.90

Heather Darby

Et cetera, but yeah.

0:39:35.790 --> 0:39:37.750

Heather Darby

Some details. Not sure if we need them.

0:39:40.570 --> 0:39:41.260

Heather Darby

Any.

0:39:41.890 --> 0:39:49.860

Heather Darby



Questions. Sorry, it's just a lot of details about what we're looking at, but are hoping to look at, sorry, we don't have funding for this yet.

0:39:50.620 --> 0:39:51.970

Heather Darby

For the soil aspect.

0:39:55.350 --> 0:39:55.700

Heather Darby

Yep.

0:39:53.190 --> 0:39:58.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah. Heather, Steve, you know we that's the project we've been talking about.

0:39:59.170 --> 0:40:0.90

Heather Darby

Yeah, yeah.

0:40:0.250 --> 0:40:4.80

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah. Well, we're we're working through it. You're going to get funding.

0:40:6.240 --> 0:40:9.420

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We got, we got that we got the blessing from on high so.

0:40:3.760 --> 0:40:9.620

Heather Darby

OK, OK. Yeah, well, I know. I just. I don't wanna make any assumptions.

0:40:10.290 --> 0:40:10.950

Heather Darby

But.

0:40:10.100 --> 0:40:13.310

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

No, no. You're gonna get it. Lot of witnesses here.

0:40:13.660 --> 0:40:41.970

Heather Darby

Yeah. Well, like I said, you know, we do have funds to to sample that Discovery Acres and using our edge of field monitoring sites. We do have some funds for some samples there. The Border View Research site will happen again, it's this whether or not we're taking soil samples and looking at degradation of neonics, how long they last in the soil. And then of course more water sampling at Discovery Acres.

0:40:43.590 --> 0:40:48.520

Heather Darby

Umm, alright. So that that's kind of the research and education and certainly.

0:40:49.710 --> 0:40:55.330

Heather Darby

I didn't give you every gory detail, but you know Terry, if there's topics you think.

0:40:55.980 --> 0:41:21.540

Heather Darby

We may not be thinking about. There should be covered. It's not all about the crop and I know people have, you know, those concerns, which we do too. You know, crop productivity is the reason we're using these, but it's also about considering the rest of our environment around us and the impact you know that pesticides in general, these and others you know can have if if we're not using them for.

0:41:23.820 --> 0:41:24.390

Heather Darby

Alright.

0:41:26.80 --> 0:41:26.710

Heather Darby

Great.

0:41:28.690 --> 0:41:30.0

Heather Darby

All right, so.

0:41:31.90 --> 0:41:49.30

Heather Darby

Morgan and others had asked me to touch a bit on, you know, the pests, at least that we're looking at in this project. And there were some specific questions about scouting and monitoring and cultural practices that may influence these pests.

0:41:49.710 --> 0:41:52.790

Heather Darby

And uh, for us, you know, in Vermont.

0:41:53.600 --> 0:42:23.400

Heather Darby

The the two primary pests that we are trying to control and again primary pest, our seed corn maggot and it says seed corn maggot but you know seed corn maggot attacks a lot of crops not just seed corn and we have more and more acres of soybeans being grown and probably will have the most acres in the history of the state of Vermont in soybeans this coming year and seed corn maggot you know also.

0:42:23.490 --> 0:42:43.240

Heather Darby

Attacks soybeans, so it's not just the pest of corn, but this is a primary pest that we have had issues with and Vermont. And again this is really why people were using insecticides 20 years ago 3040 mean.

0:42:45.40 --> 0:43:2.130

Heather Darby

Umm for a long time my dad was using insecticide and his little, you know, two row John Deere planter.

When I was a kid. So, you know, these insecticides have been used to control seed corn, maggot for for very long time in the state so.

0:43:3.810 --> 0:43:5.80

Heather Darby

It is a problem.

0:43:6.180 --> 0:43:8.120

Heather Darby

It's hard to.

0:43:9.90 --> 0:43:38.10

Heather Darby

UM always. No, that there's gonna be a real big problem. It's here, you know, all the time. But it's the really, really severe years that most people never forget. And. And that's really the primary pest that we are trying to control with the NEO next. And there's others. There's white grubs and probably the other biggest one that is.

0:43:38.680 --> 0:43:50.560

Heather Darby

Significant in Vermont because of our livestock system, which is wire worms and wire worms are big problem for us, especially in fields that get rotated out of sod.

0:43:51.190 --> 0:44:1.790

Heather Darby

Because wireworms like grass and they love sod and they build up in sod. And when you turn that sod over those wire and you plant corn.

0:44:2.830 --> 0:44:33.180

Heather Darby

I'm laughing because I have been to many fields organic fields. I would say have been the most that I've been to that have been decimated by wire worms. After SOD was turned over, but many conventional fields too in my time here in Vermont. So you know other places don't talk about wireworms as much because you know they don't have sod in their rotation especially as you move out West. So not as big of a problem there but certainly here.

0:44:37.190 --> 0:44:37.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Tethered.

0:44:34.160 --> 0:44:38.680

Heather Darby

That is quite a significant issue for candy, yeah.

0:44:38.430 --> 0:44:39.120

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Terry here.

0:44:40.430 --> 0:44:53.330

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I was gonna ask the question that you sort of have answered. I think a little bit, but it seems like we sort of have a natural control, if you will, not like pest control but control treatment.

0:44:54.590 --> 0:45:7.600

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And that's organic corn fields. And can you speak to what the incidents of seed corn maggot is in organic corn fields and whether there you have other ways that they manage?

0:45:8.780 --> 0:45:11.420

Heather Darby

Yeah. I mean for most every.

0:45:12.130 --> 0:45:17.820

Heather Darby

Test in organic cornfields, especially these type of early season pest.

0:45:19.0 --> 0:45:21.840

Heather Darby

They're managed by planting late.

0:45:22.940 --> 0:45:34.90

Heather Darby

I mean, people plant if you're organic, you don't expect to plant early, you expect to plant when the soil temperature has reached 60 degrees.

0:45:35.10 --> 0:45:55.590

Heather Darby

And in that case, at least with some of these pests like fungal fungal issues, that will cause real early season problems and and oftentimes seed corn maggot too. Not always wireworm, though, getting getting that plant out of the ground as quickly as possible.

0:45:56.440 --> 0:46:1.80

Heather Darby

Umm is what can help a plant sort of avoid.

0:46:2.70 --> 0:46:6.620

Heather Darby

These past, so it's it's that is the strategy.

0:46:9.0 --> 0:46:10.290

Heather Darby

Is late planting.

0:46:12.30 --> 0:46:12.900

Heather Darby

And so.

0:46:13.710 --> 0:46:16.160

Heather Darby

Umm, and that's for a lot of reasons.

0:46:17.470 --> 0:46:29.370

Heather Darby

And that, you know, overseeding those kind of things, but late planning waiting for the soil to come to, you know, 60 degrees so that you put the seed in the ground and it comes out of the ground in about 3 days.

0:46:30.60 --> 0:46:31.120

Heather Darby

Is the strategy.

0:46:32.230 --> 0:46:37.480

Heather Darby

And then it becomes less prone to write any of the fungal pathogens.

0:46:38.570 --> 0:46:41.800

Heather Darby

You know the seed corn maggot etcetera though.

0:46:43.250 --> 0:46:54.260

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So if everyone were to adopt that and we could just figure out how long you can, how long it takes to plant make corn and multiply that by acres and realize that we'd probably don't have enough time.

0:46:54.990 --> 0:46:56.880

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Plant the corn? Yeah.

0:46:55.30 --> 0:46:57.430

Heather Darby

Right. I mean that that really is.

0:46:57.140 --> 0:46:57.680

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Can we say?

0:46:58.470 --> 0:47:3.820

Heather Darby

Right was hanging. And you know all the all the other things.

0:47:4.940 --> 0:47:11.810

Heather Darby

Corn usually gets planted first. That's a strategy to get, you know, the corn in the ground before you start first cut.

0:47:13.280 --> 0:47:14.730

Heather Darby  
And you know that.

0:47:15.740 --> 0:47:22.10

Heather Darby  
If the ground usually is dry enough, people will start going and you know this is.

0:47:23.770 --> 0:47:34.560

Heather Darby  
Hannah, you know it's what we need to do to to get everything done and mature, you know, by the end of the season. And you know, the yields that people need so.

0:47:35.890 --> 0:47:41.450

Heather Darby  
With the amount of acres, especially that you know some people are planting.

0:47:42.760 --> 0:47:44.90

Heather Darby  
Yeah, I mean, we're talking.

0:47:44.890 --> 0:47:49.480

Heather Darby  
500,000 thousands acres. You gotta start as soon as you can.

0:47:51.520 --> 0:47:53.110

Heather Darby  
So it's not really a practical.

0:47:53.780 --> 0:47:54.640

Heather Darby  
You know solution.

0:47:57.870 --> 0:48:15.610

Heather Darby  
Umm but yes, I mean I get asked that well, what about organic farms, you know? And I will say that was already mentioned that that that's a really, really also very small acreage and most not all but most organic farms especially in Vermont they're also very you know much smaller acreage.

0:48:16.300 --> 0:48:17.960

Heather Darby  
Umm so.

0:48:19.260 --> 0:48:19.660

Heather Darby  
OK.

0:48:20.360 --> 0:48:25.150

Heather Darby

So seed corn maggot is, you know, the pest that.

0:48:26.930 --> 0:48:29.780

Heather Darby

It's it's a pain, you know, it's hard to.

0:48:32.210 --> 0:48:59.750

Heather Darby

It says hard. It's hard to predict, you know, almost impossible to predict. We can predict that it's gonna be there can't necessarily predict how bad. And then once we know, as I'm sure you all have heard over and over again, it's too late. You know, there's no, there's no rescue treatment here like there are can be with lots of other pests and and that's what has always made controlling seed corn maggot. Really, really difficult.

0:49:0.750 --> 0:49:16.700

Heather Darby

Umm. And risky for people you know, is that they don't wanna wait and see if it's gonna be bad or not. And they prevent that from happening. And in the past it was using player box insecticides and now it's, you know, seed treatment.

0:49:17.550 --> 0:49:24.450

Heather Darby

So you know, we have multiple generations of seed corn, maggot in Vermont, just like everyone else.

0:49:25.580 --> 0:49:46.310

Heather Darby

And it. But it's really for the most part, at least for corn and soybeans, it's the first generation of seed corn maggot that causes, you know, the biggest issue and it's even more of an issue when the corn is growing really slow because it's just basically hanging out there.

0:49:47.350 --> 0:49:58.80

Heather Darby

Waiting for something else to happen to it, or something else to eat it or attack it before it'll germinate so you know it is.

0:49:59.330 --> 0:50:30.20

Heather Darby

Always worse when it when it's cooler out. And again, we're commonly planting corn when the soils are pretty cool because we're trying to get a lot of other things done when the window of opportunity opens, which can be really short. I think last week it was I think it was really about a week last year that we had a decent week of weather in May and people that got their corn planted ended up with great crops and people that didn't you know in some cases got very little.

0:50:30.460 --> 0:50:33.370

Heather Darby

So the ability to respond quickly.

0:50:34.140 --> 0:50:37.870

Heather Darby

Is important and that's all farming so.

0:50:39.630 --> 0:51:9.380

Heather Darby

Right. It's it's, you know you can use GDD models. I'll talk about those to kind of predict when that first generation will occur and when the peak flights are and things like that. But again, like the magnitude you know is much harder to predict and then you know just trying to avoid the crop or trying to avoid the pest is really difficult because of, you know, our climate here and it warms up slow often and.

0:51:9.710 --> 0:51:16.120

Heather Darby

People are trying to get the work done when you know the the soils dry enough basically.

0:51:16.770 --> 0:51:19.660

Heather Darby

So I'm sure everybody's heard a lot about.

0:51:20.850 --> 0:51:27.20

Heather Darby

You know, if we're using conservation practices, we have, you know, the the amount of seed corn maggot is worse.

0:51:27.820 --> 0:51:48.30

Heather Darby

I don't know if it's any worse than it was before. You know, it's just a sea corn maggot. The fly is really interested in decaying organic matter. It's not after the corn seed itself. It's actually, you know, it's cue is from decaying organic matter. So.

0:51:48.770 --> 0:52:17.750

Heather Darby

You know, if the soil is actually tilled and there's minor and there's, you know, cover crops incorporated or, you know, like green sod or anything like that, that's really attractive to seed corn maggot to the fly, to basically go and lay her eggs. It has nothing to do with whether or not that field is planted with corn or soybeans or really anything else. It's the fact that it's.

0:52:18.730 --> 0:52:21.380

Heather Darby

I guess probably the the smell.

0:52:23.0 --> 0:52:30.470

Heather Darby

And you know it, it really is that sort of decaying organic matter that's attractive, so.

0:52:31.170 --> 0:53:1.700

Heather Darby

You know, again, I just created that picture of, well, if we're applying minor and we're tilling soil, and



then we're also tilling up cover crops or green sod or anything like that, we do, you know, have an attractive place for seed corn, maggot flies to go and lay their eggs. So, you know, fields that are high in organic matter, any of these things are more attractive to to the fly, to lay her eggs.

0:53:2.50 --> 0:53:21.90

Heather Darby

So you know, yes, we definitely have a scenario here in Vermont where we're we're doing all of these things and it does, you know, lead us to be very attractive or at least our fields to this pest. And you know that's.

0:53:22.220 --> 0:53:38.870

Heather Darby

That has not changed. I will say one of the things that has changed is that, you know, we're growing more cover crops. So on a more regular basis, we may have that green rotting material early in the spring, right, because a lot of farmers are using cover crops.

0:53:39.550 --> 0:54:9.340

Heather Darby

But what has changed, I would say is that more of our farmers are moving to no till and no till is actually less. I think. I'm not sure if I put that in here but no till fields are less attractive to the seed corn maggot fly because really they're after that decaying exposed organic matter. And so just having organic matter on the surface of the field doesn't necessarily create.

0:54:9.540 --> 0:54:19.990

Heather Darby

That sort of same conducive environment. So there is quite a bit of evidence saying that, you know, sort of no till is less attractive to see.

0:54:24.210 --> 0:54:44.860

Heather Darby

And yes, so then she lays her eggs in the decomposing organic matter. They hatch. There's larvae. Those are the maggots. And when there's something yummy and big and juicy right next to it, that's what it's gonna go after. Which, you know, can be seedlings. It can be corn seed can be soybean seed.

0:54:46.100 --> 0:54:47.160

Heather Darby

Any you know?

0:54:47.780 --> 0:55:2.210

Heather Darby

Really, any stage of early season growth they will feed on, so you know it can outright kill the corn seed, it can kill the little plant or it can just sort of delay the development depending on how.

0:55:3.540 --> 0:55:22.810

Heather Darby

Now of course, you know, like I already said, when it's like cold and wet and corn germination is really slow. I mean, some of us have seen germination take two weeks before, even when people aren't planning that early because the conditions just turn and they, you know, get wet and cold.

0:55:23.890 --> 0:55:29.620

Heather Darby

That definitely when the everything is going very slow, it makes those fields.

0:55:30.390 --> 0:55:31.760

Heather Darby

More at risk for sure.

0:55:32.860 --> 0:55:33.380

Heather Darby

All right.

0:55:34.470 --> 0:55:56.90

Heather Darby

And I think one thing to know about seedcorn maggot, that's really different than like wire worm, which we'll talk about next. Is that usually this is a field wide issue, not just the little patches here and there, like with wire worm. It usually is pretty patchy. So when you have a big problem, you got a big problem.

0:55:58.170 --> 0:56:5.570

Heather Darby

Umm, so you know, we've heard this again there are no rescue treatments when things go bad, you know.

0:56:6.440 --> 0:56:10.340

Heather Darby

Other than replanting, which again is very costly.

0:56:11.620 --> 0:56:13.390

Heather Darby

And you know, you gonna have time.

0:56:14.40 --> 0:56:41.180

Heather Darby

So, you know, practices that speed up germination and plant emergence will help reduce crop losses and a lot of you know ways. And we already talked about, you know, you can delay planting if that's feasible for you to do. But for most people, they're planting when you know the soil is dry enough in the spring because the assumption is it is gonna warm up, usually doesn't get colder. But you know, it does happen.

0:56:42.860 --> 0:57:3.180

Heather Darby

You know we are rotating fields. We've gotten even better at that. We have, you know, good amount of animal manure. We have cover crop residue. So all those things make the fields more, you know conducive and that's certainly not something I would think that we'd wanna stop doing for sure.

0:57:4.0 --> 0:57:18.170

Heather Darby

But you know, as I mentioned, conservation tillage or no till in particular where the you know residues and all the organic matter isn't incorporated make those fields less attractive.

0:57:19.450 --> 0:57:37.300

Heather Darby

And you know, there's there are GDD models where you can, you know, predict when you're gonna have peak fly emergence. I think you know and then basically you can try to plant within that fly free period but again.

0:57:38.70 --> 0:57:42.520

Heather Darby

You know, for most growers it's just, you know, it's not very realistic.

0:57:44.0 --> 0:57:54.580

Heather Darby

Not practical. I mean that fly free period could be the rainiest week. We have all spring. And if that's when you were banking to plant, you would be very upset.

0:57:54.740 --> 0:58:0.800

Heather Darby

Umm, so you know, but but we can monitor through growing degree models.

0:58:1.540 --> 0:58:5.510

Heather Darby

Umm and definitely can tell when those peak flights are gonna happen.

0:58:6.400 --> 0:58:8.270

Heather Darby

But yeah, I mean.

0:58:9.490 --> 0:58:14.390

Heather Darby

Planning around them or within them would be difficult to reliably do that.

0:58:16.270 --> 0:58:21.80

Heather Darby

Umm, alright, so there are growing degree calculators. We use them all the time.

0:58:21.930 --> 0:58:28.650

Heather Darby

Umm. And again, you know there is. There's no rescue treatment, there's no chemical rescue treatment.

0:58:29.370 --> 0:58:31.310

Heather Darby

And that's, you know, I think.

0:58:32.250 --> 0:58:35.40

Heather Darby

Why insecticides?

0:58:35.710 --> 0:58:43.490

Heather Darby

Not just today, but for very, very long time have been the go to for controlling this pest.

0:58:44.590 --> 0:58:45.120

Heather Darby

So.

0:58:46.150 --> 0:58:52.420

Heather Darby

That's that. I don't know what else to say. I don't have any answers that are.

0:58:53.420 --> 0:58:55.660

Heather Darby

Brilliant here. I wish I did.

0:58:57.90 --> 0:58:58.230

Heather Darby

Terry, you must.

0:59:2.510 --> 0:59:5.530

Heather Darby

Now it's a tough one, you know, and you could say, well, let's.

0:59:4.140 --> 0:59:5.760

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

What put him on the agenda for next?

0:59:6.880 --> 0:59:8.790

Heather Darby

Yeah, but.

0:59:7.290 --> 0:59:9.30

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Be careful, you don't be running your mouth.

0:59:9.560 --> 0:59:14.250

Heather Darby

Yeah, I you know, and I think the hard you know and Stephanie alluded to this.

0:59:15.910 --> 0:59:21.630

Heather Darby

You know, if we could wait and see and shift what we were planting based on these models.

0:59:23.80 --> 0:59:24.840

Heather Darby

But it's just like.

0:59:25.770 --> 0:59:35.210

Heather Darby

Shuffling corn seed like that and being prepared our system doesn't work like that, you know, and that that's not just a Vermont thing. You know, as far as.

0:59:35.880 --> 0:59:40.810

Heather Darby

What you've chosen to plan, you've made those decisions way months in advance and.

0:59:41.520 --> 0:59:44.150

Heather Darby

Yeah. So I mean, it's hard. This is a hard one.

0:59:46.190 --> 0:59:47.140

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That's why we're here.

0:59:47.700 --> 0:59:48.20

Heather Darby

Yeah.

0:59:48.720 --> 0:59:51.410

Heather Darby

That's why you're here. You're gonna come up with the answers. Good.

0:59:51.260 --> 0:59:52.370

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That's why weird.

0:59:53.250 --> 0:59:54.980

Heather Darby

Oh, OK.

0:59:55.290 --> 0:59:56.300

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We are all here.

0:59:56.850 --> 0:59:57.890

Heather Darby

Yes, I know.

1:0:0.790 --> 1:0:7.550

Heather Darby

You know, and I hear a lot about. So we are, you know, we're gonna put out these demo trials. We're gonna look at some things out on farms.

1:0:8.900 --> 1:0:10.390

Heather Darby

You know, and I hear this a lot.

1:0:12.20 --> 1:0:27.400

Heather Darby

You know well, you may not see any damage because there's this sort of Halo effect of using these neonics. The populations are low or you, you've got an influence from around you because the neonics are being used.

1:0:28.550 --> 1:0:38.900

Heather Darby

Just you know, true. It makes it harder to study it. We saw this same exact kind of effect when we were looking at non-GMO crops and control of.

1:0:40.80 --> 1:0:55.510

Heather Darby

Hornblower. And you know for a while we didn't have much trouble at all. And then all of a sudden, this sort of Halo effect wore off and then it was a ridiculous sort of influx of pest on this one field.

1:0:56.820 --> 1:1:1.90

Heather Darby

That didn't have UM, GMO corn in it, and it was just this.

1:1:1.790 --> 1:1:10.340

Heather Darby

Yeah, I opening experience as to the effect of this kind of broad scale usage of some of these things. And I'm not saying that's good, but.

1:1:11.350 --> 1:1:15.890

Heather Darby

Yeah, it was quite a thing to observe actually anyway.

1:1:17.340 --> 1:1:17.780

Heather Darby

Yeah.

1:1:15.950 --> 1:1:27.360

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Hello, Steve, I've got questions. The corn that you the seed you were able to get that was not treated, was that did it have any plant incorporated protectants is it genetically engineered?

1:1:31.300 --> 1:1:46.250

Heather Darby

Yes, it is. And I say that with a little hesitation because I'm, I should have looked before I got on here because we had a field meeting today too. When I was asked that question and I thought, I think so. But I need to double check.

1:1:47.690 --> 1:1:48.10

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK.

1:1:47.70 --> 1:1:56.810

Heather Darby

The variety that we got was kind of up in the air several times. So then now I'm wondering like what we actually ended up getting. So I will get back to you on that, yeah.

1:2:9.270 --> 1:2:10.310

Heather Darby

Yeah, there it is.

1:2:16.200 --> 1:2:17.470

Heather Darby

Right, yeah.

1:2:19.290 --> 1:2:21.310

Heather Darby

Yeah, there are some different ones, but.

1:1:54.900 --> 1:2:24.670

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK. I was just curious but well, I think one thing to point out here is at least the I think both pets were talking about, you haven't gotten to wire what is wire worm insect class. So it's a beetle. So. So yeah, coleopter and you've got a Diptera, but the GE controls hip adopter. So for the most part it sounds different. There are some BTIS for different, OK, there is not another. Yeah. Lepidoptera.

1:2:24.860 --> 1:2:25.610

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Is that different?

1:2:26.440 --> 1:2:30.730

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That's why they don't. No dipped, right? Yeah, and Coleoptera probably not.

1:2:31.150 --> 1:2:31.310

Heather Darby

No.

1:2:31.390 --> 1:2:32.580

Heather Darby

No, I don't believe so.

1:2:32.720 --> 1:2:33.910

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah. OK.

1:2:33.190 --> 1:2:43.180

Heather Darby

But yeah, so like I mentioned, the other pest primary pest now slugs is another big thing that we do use to control neonics. I'm not gonna.

1:3:8.780 --> 1:3:9.850

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Seats must be peak.

1:2:43.910 --> 1:3:14.840

Heather Darby

Umm are we control with neonics? They they can really be a pretty significant issue in soybeans in particular, we're probably see a bunch of that this year. I think it was already mentioned, it's easier to get soybeans untreated people end up with them on treated and they wonder why the seed isn't pink. You know, I have gone calls about that before anyway, but, you know, slugs is is another group that neonics helps control that we do have problems with. Wire worms is the other one.

1:3:15.520 --> 1:3:19.740

Heather Darby

These are click beetles. People are pretty familiar with the adult for sure.

1:3:20.590 --> 1:3:36.640

Heather Darby

Umm. And you know they can remain at high populations in the soil for many years, you know, up to three years. So, you know, it is a problem that can persist depending on the crop that you're growing.

1:3:37.270 --> 1:3:40.780

Heather Darby

So control usually is kind of warranted for these.

1:3:42.640 --> 1:3:43.610

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Quick question.

1:3:43.0 --> 1:3:43.960

Heather Darby

You know and this.

1:3:44.760 --> 1:3:45.210

Heather Darby

Yep.

1:3:52.480 --> 1:3:53.150

Heather Darby

Yep.

1:3:45.250 --> 1:3:54.330

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, they're just, I think you've moved on past slugs, but a quick question I have, one of John Tooker's kind of argument against.

1:3:55.560 --> 1:3:56.890

Heather Darby

Neonics. Yep.



1:4:3.130 --> 1:4:3.570

Heather Darby

Yes.

1:3:56.60 --> 1:4:7.190

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Treated seed is is that increases slug damage because it takes out some of the predatory Beetles to you on that page or or is that true in Vermont?

1:4:6.240 --> 1:4:12.20

Heather Darby

I'm on that. I'm on several of those projects right now. The verdict is.

1:4:15.270 --> 1:4:15.660

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK.

1:4:12.680 --> 1:4:18.350

Heather Darby

Is still out for us here in Vermont, but I can. I will let you know. Next year when we finish.

1:4:19.130 --> 1:4:24.940

Heather Darby

Finish the project. But yes, yeah, that is something that they've definitely observed in Pennsylvania.

1:4:27.200 --> 1:4:29.120

Heather Darby

And as we have more.

1:4:29.820 --> 1:4:30.380

Heather Darby

Umm.

1:4:31.120 --> 1:4:31.880

Heather Darby

No tell.

1:4:32.920 --> 1:4:41.130

Heather Darby

We have a lot more slug damage, so this wasn't really something we thought all that much about before, but we have had farmers go away from.

1:4:43.210 --> 1:4:44.680

Heather Darby

No tell because of slugs.

1:4:46.200 --> 1:4:49.140

Heather Darby

Now that they've gone away from treated seed because of slug.

1:4:50.480 --> 1:4:50.790

Heather Darby

No.

1:4:51.810 --> 1:4:57.100

Heather Darby

Umm. OK, so wireworm damage. I. Yeah, I've seen a lot of this in Vermont.

1:4:58.230 --> 1:5:2.370

Heather Darby

And actually, even when you have treated seed, you can have a lot of damage.

1:5:4.190 --> 1:5:16.120

Heather Darby

It's a hard one when the infestation is high, you can basically see an entire 50 acre field of corn almost completely gone. Even with seed treatment. So.

1:5:17.750 --> 1:5:34.160

Heather Darby

Yeah, see, treatment doesn't always do the trick when infestations are really bad either it you know it, it builds up in our sod crops. So the worst situations I've seen as long term sod rotated into corn.

1:5:35.30 --> 1:5:46.530

Heather Darby

And you know, seeing fields completely wiped out. So you know this is an issue for us definitely. If you're a potato grower, this is a huge issue as well.

1:5:47.870 --> 1:5:56.610

Heather Darby

So there's a problem in Vermont. It's it's kind of a longer lasting issue as well in our cornfields, we see a lot of this.

1:5:57.970 --> 1:6:1.970

Heather Darby

In in fields treated fields every year we still see.

1:6:3.150 --> 1:6:7.60

Heather Darby

Kind of like longer because it takes a long time for the larvae.

1:6:7.520 --> 1:6:14.870

Heather Darby

Umm to move through their development stages that you can actually see issues with?

1:6:15.720 --> 1:6:39.400

Heather Darby

Pretty, you know, I don't wanna say mature corn, but corn that is, you know, at the 4th, 5th, sometimes 6 leaf stage you can see where damage is happening. You actually see this dead leaf in the middle of

the world of the corn. A lot of times that has to do with wire worm feeding. So I know this can be quite significant in Vermont.

1:6:40.690 --> 1:7:9.810

Heather Darby

This is the one that we hear about the most. I feel like in regards to scouting and, you know, determining whether somebody needs a neuronic treatment is, you know, these kind of bait stations and those bait stations are really the method for determining if wireworm populations are at, you know, sort of the economic threshold. They're not. It's not determining.

1:7:10.460 --> 1:7:25.140

Heather Darby

Seed corn maggot, right? So this is really just for wireworms. And these bait stations are, you know, their wholes. Little holes dug in the ground. You put a pile of grain in there, a cup of grain, untreated corn or wheat.

1:7:25.660 --> 1:7:44.150

Heather Darby

I'm cover it back up. You put a little piece of plastic over the top to make it nice and warm and start decomposing the corn and that attracts the wire worms. Gotta wait a couple of weeks. You go out and check and then you count how many wire worms there are.

1:7:44.510 --> 1:7:59.850

Heather Darby

Umm. And you know the average of 1 wire worm per bait station means that you're at the economic threshold level, but you should consider treatment, so it's not very many. The hard thing with this is.

1:8:0.710 --> 1:8:9.160

Heather Darby

You know, here in Vermont, we can't really do this in the spring again. You know, Stephanie already mentioned. You can't just make a decision on.

1:8:9.960 --> 1:8:20.850

Heather Darby

Corn seed a week before you plant those decisions have to be made earlier. This also has to be done once the ground has more amped up a little bit.

1:8:22.160 --> 1:8:51.830

Heather Darby

Degrees doesn't seem that warm, but you know it's not right now. So by the time the ground reaches 45 degrees and you go out and put these bait stations in place, then you wait two weeks. You could be well into planting at that point or wanting to plant that point. So really these bait stations in this kind of scouting needs to be done in the fall. But again, it has to be done before the soil temperature drops, right?

1:8:52.190 --> 1:9:3.560

Heather Darby

And you have to have, you know, the corn off the field or whatever's happening there. You need to be able to go out and put these into place. So that prevents all, you know, small, a little bit of a challenge.

1:9:3.920 --> 1:9:10.770

Heather Darby

Umm, you know, this pest is pretty patchy or can be patchy. You know depending on the situation in a field.

1:9:12.180 --> 1:9:12.960

Heather Darby

And so.

1:9:13.990 --> 1:9:33.560

Heather Darby

You know, you definitely. You're you're only supposed to use five or ten of these per 30 acres, so you have to have some knowledge to know where to really put those bait stations because you could completely miss a hot spot for sure if you, you know, don't know what you're looking for. So this is, you know, the one we hear about a lot.

1:9:34.860 --> 1:9:45.690

Heather Darby

You know, I I remember looking at the stuff out of Ontario and they talked about these bait stations, but again, this is this is for wireworms, it's not for seed corn nugget.

1:9:47.190 --> 1:10:10.810

Heather Darby

There's other like simpler method that's in the older kind of older literature. Older extension. I guess recommendations using a shovel, digging down about 10 inches, lifting it out kind of rounding off the top by about 6 inches, and then sifting through that to look for wire worms. And doing that at 20 different spots around the field.

1:10:11.570 --> 1:10:39.680

Heather Darby

Umm, this clearly is a little bit quicker, would be quicker for farmers to do and and then again one wire worm per shovel. It's kind of equivalent to about 20,000 wire worms per acre, which really grosses me out thinking about that. But but anyway, so I mean there's, there's, you know, there's methods out there for actually determining ahead of time. You know, this sort of economic threshold for wire worms, but that same.

1:10:40.380 --> 1:10:44.120

Heather Darby

You know those same sort of tools don't really exist for seed corn.

1:10:46.840 --> 1:10:50.630

Heather Darby

That that, I think is our our primary challenge there.

1:10:51.780 --> 1:10:56.360

Heather Darby

Umm, alright, so getting, you know, access to seed.

1:10:57.390 --> 1:11:5.480

Heather Darby

I will say I thought I didn't. I never thought this would be easy, but what I thought would be great.

1:11:7.170 --> 1:11:12.260

Heather Darby

Umm would maybe the farmers would save money if they didn't use it.

1:11:12.970 --> 1:11:16.320

Heather Darby

And you know, that would sort of drive.

1:11:18.940 --> 1:11:20.630

Heather Darby

You know some of this, but.

1:11:21.810 --> 1:11:28.830

Heather Darby

In some cases, I've been charged more for the inconvenience fee. We'll say that.

1:11:29.980 --> 1:11:43.810

Heather Darby

And then there's this whole question of liability question that comes up. And then I work a lot with Albert Lee Seed, which is out of Minnesota. They really focus on the non-GMO and organic market, but.

1:11:45.170 --> 1:11:51.860

Heather Darby

You know, with them, you know, they they have this, it's the farmer's choice. You can save \$10 a bag which.

1:11:52.620 --> 1:11:58.960

Heather Darby

Which is great, but I thought it would be a lot more than that. That's less than \$5 an acre.

1:11:59.720 --> 1:12:3.200

Heather Darby

That you would say by not using it right? So.

1:12:26.870 --> 1:12:27.830

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Registry difference.

1:12:4.80 --> 1:12:30.860

Heather Darby

You're thinking about risk management. You know, it's like is it worth \$3 an acre or not, you know, so

this company is sort of catering to a market that doesn't, that wants to have a choice, which is really great, wants to, you know, sort of use treatments when they absolutely feel like they need to or should they can save 10 bucks.

1:12:32.50 --> 1:12:39.360

Heather Darby

But I don't believe you can get all of your. All the corn isn't available that way. I don't believe so with them either so.

1:12:40.220 --> 1:12:40.830

Heather Darby

Anyway.

1:12:41.650 --> 1:12:43.110

Heather Darby

That's kind of all I have.

1:12:44.130 --> 1:12:46.140

Heather Darby

We've we definitely have some challenges.

1:12:47.350 --> 1:12:48.590

Heather Darby

Clearly in front of us.

1:12:49.470 --> 1:12:54.510

Heather Darby

And I think that's part of my desire to really right now at least.

1:12:55.420 --> 1:12:57.510

Heather Darby

Really push on the education piece.

1:12:58.420 --> 1:12:59.730

Heather Darby

And raising awareness.

1:13:2.480 --> 1:13:2.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK.

1:13:2.310 --> 1:13:3.930

Heather Darby

OK, sorry done.

1:13:4.900 --> 1:13:5.630

Heather Darby

Oh.

1:13:4.240 --> 1:13:7.540

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Well, thank you very much. It's very informative.

1:13:8.260 --> 1:13:11.320

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Any of the board members have any questions for Heather?

1:13:13.130 --> 1:13:15.700

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Any other research he's doing plans?

1:13:17.770 --> 1:13:20.600

Heather Darby

Yeah, I'm please feel free to reach out as well.

1:13:22.300 --> 1:13:25.350

Heather Darby

If you have questions, comments, suggestions.

1:13:26.620 --> 1:13:27.370

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

What will?

1:13:26.370 --> 1:13:31.220

Heather Darby

We are putting together this webinar series, so if there's anybody.

1:13:32.20 --> 1:13:38.670

Heather Darby

Speakers, individuals that you think the farmer should hear from that would be great to know as well.

1:13:40.220 --> 1:13:43.710

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Have you have? You may have you finalized the plans for webinars yet?

1:13:44.310 --> 1:13:45.260

Heather Darby

No, they.

1:13:47.30 --> 1:13:51.570

Heather Darby

They actually weren't. We're not gonna do them until next late. Fall into next winter.

1:13:52.360 --> 1:13:54.490

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, OK. Because I think it'd be good.

1:13:55.640 --> 1:13:56.520

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Board members something.

1:13:53.430 --> 1:14:0.480

Heather Darby

So we have plenty of time there. Yep. This summer will really be kind of out in the field at the field days that we're hosting.

1:14:1.350 --> 1:14:1.820

Heather Darby

Uh.

1:14:2.530 --> 1:14:7.150

Heather Darby

You know, providing education that way, packet, some material, etcetera.

1:14:8.410 --> 1:14:9.920

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Can if you would.

1:14:8.770 --> 1:14:11.680

Heather Darby

So also if people have good resources.

1:14:12.410 --> 1:14:31.950

Heather Darby

That they would like to see distributed to farmers. Please send them my way so that you know, our plan is to put together resource materials information that we put into the hands of the farmers at every event that we can and that we're talking about this. So that would be helpful to us too.

1:14:34.570 --> 1:14:36.900

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Heather, I got one question for you Terry again.

1:14:38.660 --> 1:14:42.590

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

You were king and you could decree any law of the land.

1:14:42.670 --> 1:14:52.260

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Is there anything you would change about what the present policy is? Federal, state, local to address any of this?

1:14:53.460 --> 1:14:54.720

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, sorry.



1:14:55.260 --> 1:15:12.290

Heather Darby

No, that's fine. I mean, I think you know, first and foremost, the things that we locally can have some control over on our farms like you know, management of the planners and the dust. And I think there's, you know, conversation about better communication with beekeepers, all those things, you know.

1:15:12.670 --> 1:15:38.600

Heather Darby

Umm, I feel like we we can, you know, educate and and try to accomplish. We know clearly that some planners create a lot more dust than others. We do have some of those planners and our state you know and I don't even know if people are really aware that if they made some slight modifications at least we know that the dust would be you know greatly minimized if there's things we can.

1:15:39.240 --> 1:15:53.70

Heather Darby

Do like that right out of the starting gate. And of course that we can help. Do you know the state has a lot of programs for conservation equipment even, you know, if there's something we need to do to modify a vacuum planner?

1:15:53.390 --> 1:16:0.930

Heather Darby

Umm, you know, let's like, have that conversation so that we can those are gonna say simple things to achieve but.

1:16:5.60 --> 1:16:5.800

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Does does that?

1:16:1.740 --> 1:16:12.310

Heather Darby

Definitely like we should be doing those now. Trying to control the national seed industry or the global seed industry that I don't have any answers to.

1:16:14.40 --> 1:16:14.440

Heather Darby

Yeah.

1:16:12.500 --> 1:16:18.10

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Hey, Heather. Terry is does UPM have an AG engineering group?

1:16:19.870 --> 1:16:20.720

Heather Darby

We have.

1:16:22.550 --> 1:16:23.320

Heather Darby

Yeah.

1:16:19.380 --> 1:16:35.550

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

They they do, they wanted one engineer and it's the focus on a lot of different things. Food safety being the main one right now. Yeah. Yeah. It's not a we. We're not robust with people. He's good but.

1:16:36.310 --> 1:16:44.940

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK. Well, we're gonna reach out to them. Yeah. Or he might have some colleagues in the research in that. There's something about it. I mean, Ontario is doing a lot of work. Yeah. Yeah, yeah. No.

1:16:43.780 --> 1:16:47.930

Heather Darby

Yeah. I mean, we have lots of connections. It's not like we can't.

1:16:49.90 --> 1:16:49.900

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, I think.

1:16:48.690 --> 1:16:54.420

Heather Darby

Happen elsewhere, but I do think you know just those things we could do and.

1:16:55.180 --> 1:16:55.350

Heather Darby

No.

1:16:54.560 --> 1:17:8.430

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah. Well, I I think that's definitely something we should probably provide some information to the board about. Yeah. And I would imagine that, you know, preserving the stuff makes preserving the treatment on the seed.

1:17:9.350 --> 1:17:23.200

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The benefits not only the farmer and everybody else but benefits the the manufacturer of the pesticide because it makes the seed more greater efficacy. If it has the treatment that's just have on it.

1:17:25.890 --> 1:17:27.350

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Heather this Steve.

1:17:28.420 --> 1:17:35.40

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

When would be? I think it would be really helpful for the board to come see your research when it's in the field.

1:17:36.690 --> 1:17:40.690

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

When would be a good time to think about doing that?

1:17:42.490 --> 1:17:45.650

Heather Darby

Well, we will. You know we are planning.

1:17:46.320 --> 1:17:49.870

Heather Darby

We always have field days, but if you want your own personal tour.

1:17:52.340 --> 1:17:52.950

Heather Darby

That would.

1:17:53.30 --> 1:17:53.190

Heather Darby

The.

1:17:53.260 --> 1:18:0.840

Heather Darby

He I guess it depends where you wanna go and what you wanna look at. If you wanna come up to border view research farm.

1:18:1.640 --> 1:18:18.70

Heather Darby

Umm, I think maybe most telling for most of this would be relatively early in the season, right? When the that particular trial is planted. So that would be probably end of June, early July.

1:18:19.370 --> 1:18:21.560

Heather Darby

Umm for for that one.

1:18:19.760 --> 1:18:22.400

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK. Well, we'll work with you on that.

1:18:22.340 --> 1:18:22.860

Heather Darby

Yeah.

1:18:28.630 --> 1:18:28.990

Heather Darby

Yeah.

1:18:23.520 --> 1:18:30.90

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And also it whenever you schedule field day, let us know, we'll make sure all the board members are aware of them.

1:18:31.350 --> 1:18:38.840

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So they can attend, you know, any field that they want to, I mean more information. Everybody gets the easier it's gonna be to make a decision.

1:18:39.500 --> 1:18:41.700

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm for the more important.

1:18:39.770 --> 1:18:48.600

Heather Darby

Yeah, I would say, you know, and for the farmers too, some farmers like I, you know, I had already mentioned the farm, some of the farmer we're ganization.

1:18:49.480 --> 1:18:52.840

Heather Darby

They are talking about this, so it's on their minds.

1:18:53.440 --> 1:18:59.350

Heather Darby

But for many farmers they you know, they need the information we need to be.

1:19:0.30 --> 1:19:2.210

Heather Darby

Talking to them about this.

1:19:2.890 --> 1:19:4.40

Heather Darby

Umm yeah.

1:19:4.920 --> 1:19:5.140

Heather Darby

So.

1:19:5.810 --> 1:19:7.10

Heather Darby

We will be doing that.

1:19:11.200 --> 1:19:15.400

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I believe the researcher is from Bridgetown College in Guelph.

1:19:16.270 --> 1:19:17.290

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, art.

1:19:17.370 --> 1:19:21.450

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uh SMACH AAF SMA.

1:19:22.170 --> 1:19:39.750

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

To pastor. But he's he's done a ton of work. Can you forward that to Morgan? Won't reach out. You spelled that too fast for me. Yeah, well, you just forward it to you. I can forward it to you. But he's done a lot of research on corn planters, engineering stuff and his theory to the whole thing is it's a drift problem.

1:19:41.550 --> 1:19:45.560

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Certain planners do that. Yes. OK, great.

1:19:47.210 --> 1:19:50.100

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK. Any other any other questions for Heather?

1:19:54.140 --> 1:20:0.190

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Well, Heather, thank you very much and we're really looking forward to learning more about what results you get.

1:20:1.370 --> 1:20:4.630

Heather Darby

OK. Thank you. Good to see you all.

1:20:6.460 --> 1:20:6.900

Heather Darby

Hi.

1:20:7.640 --> 1:20:8.570

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Right, right.

1:20:8.650 --> 1:20:24.320

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, yeah, almost exactly on scheduler too. OK, so next item on the agenda is Sarah Owen or a literature review of the risk assessment of neonicotinoid 3 seats. So, Sarah, you ready?

1:20:26.480 --> 1:20:27.600

Owen, Sarah

Yeah. Can you hear me?

1:20:28.500 --> 1:20:29.850

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yes, ma'am. Yep.

1:20:29.810 --> 1:20:30.340

Owen, Sarah

OK.

1:20:31.280 --> 1:20:36.530

Owen, Sarah

I will give you an update as to where I've gotten so far.

1:20:37.850 --> 1:20:40.570

Owen, Sarah

As soon as I can move my camera around, here we go.

1:20:41.940 --> 1:20:47.450

Owen, Sarah

Yeah. So I started looking into the human health risk assessment for neonicotinoid treated seeds.

1:20:48.730 --> 1:20:52.840

Owen, Sarah

I'll tell you my conclusion first and then I'll kind of fill in some of the blanks.

1:20:54.850 --> 1:21:11.730

Owen, Sarah

So EPA, my first question was whether or not EPA has done any sort of assessment of treated seeds and their impact on human health. And the answer is yes. So that's helpful. That's much better than having to, you know, start a human health assessment from scratch.

1:21:12.540 --> 1:21:35.800

Owen, Sarah

So EPA assesses the risk to sort of two different populations that are relevant. I mean, they do a lot of exposure scenarios, but the two that are relevant for treated seeds are occupational workers and dietary exposures. So the rest of us who are not out there applying these applying pesticides to the seeds or planting the seeds.

1:21:36.940 --> 1:21:37.480

Owen, Sarah

Umm.

1:21:38.660 --> 1:21:42.580

Owen, Sarah

The way that they do their assessment for.

1:21:43.60 --> 1:21:47.370

Owen, Sarah

Umm, I'm going to start with the dietary one because it I understand it better.

1:21:47.910 --> 1:21:52.320

Owen, Sarah

Umm, the way that they do their assessment for dietary exposures is they.

1:21:53.580 --> 1:21:55.570

Owen, Sarah

Look to see whether they are going to be.

1:21:56.360 --> 1:22:7.880

Owen, Sarah

Residues expected in the food crop so as the seed gets treated, it grows into the crop. If there are still residues there, they will set a tolerance and include it in their total dietary viscus assessment.

1:22:8.670 --> 1:22:9.200

Owen, Sarah

Umm.

1:22:10.540 --> 1:22:19.950

Owen, Sarah

For so I started off looking at imidacloprid. I had a list of six Munich it's noises that are used to treat seeds so.

1:22:21.400 --> 1:22:24.850

Owen, Sarah

Imminent clopyralid nitenpyram acetamiprid.

1:22:25.550 --> 1:22:29.740

Owen, Sarah

Famous Oxium thiacloprid and clothianidin. So I only got through into clobbered so far.

1:22:31.720 --> 1:22:38.470

Owen, Sarah

So with imidacloprid, there's seed treatment use. But there's also foliar use and the.

1:22:39.570 --> 1:22:40.510

Owen, Sarah

Amount of.

1:22:41.540 --> 1:22:45.610

Owen, Sarah

Residue from the seed treatment is negligible.

1:22:47.470 --> 1:22:48.140

Owen, Sarah

So.

1:22:49.640 --> 1:23:1.870

Owen, Sarah

That that sort of gives a big indication that in terms of the dietary risk assessment, most of our exposure to imidacloprid is coming from, you know, the approved uses of imidacloprid on the.

1:23:2.490 --> 1:23:6.80

Owen, Sarah

Umm, the actual food that we're eating. You know, once it's been grown and is.

1:23:6.840 --> 1:23:10.0

Owen, Sarah

Uh has parts we eat versus the seed.

1:23:13.790 --> 1:23:18.930

Owen, Sarah

So I can switch a little bit to the occupational set occupational side.

1:23:20.0 --> 1:23:20.450

Owen, Sarah

Umm.

1:23:21.360 --> 1:23:22.130

Owen, Sarah

They.

1:23:23.420 --> 1:23:33.330

Owen, Sarah

They looked at a couple different scenarios and so one of my questions, I'm not quite sure which scenario is most relevant here in Vermont. One scenario is where the.

1:23:35.290 --> 1:23:41.370

Owen, Sarah

The farmers buy the seeds already treated, and so they they come into the farm as treated articles.

1:23:42.730 --> 1:23:57.840

Owen, Sarah

And the former is then working with those seeds, etcetera. The other scenario is where a farmer purchases the seeds and purchases the immunoglobulin separately and then they're applying the immunoglobulin or whatever other units joined to the seed.

1:23:58.710 --> 1:23:59.400

Owen, Sarah

So I.

1:24:1.170 --> 1:24:5.780

Owen, Sarah

I had actually just assumed that all the treated seeds came in pretreated.

1:24:7.970 --> 1:24:18.320

Owen, Sarah

Anyway, those two scenarios have different levels of risk is obviously more potential for exposure if workers or farmers are applying the pesticide directly to the seed.

1:24:20.560 --> 1:24:21.730

Owen, Sarah

But with the.



1:24:22.490 --> 1:24:29.920

Owen, Sarah

With the scenario where the farmers are simply planting the seeds that were already treated, there was also very little risk that EPA found from.

1:24:30.960 --> 1:24:32.70

Owen, Sarah

From that scenario.

1:24:34.810 --> 1:24:47.530

Owen, Sarah

Does a really short summary. I can definitely go into more detail and I I'm a little bit fuzzy on when our timelines are due, but I I think this is all going to be written up and I would certainly write more detail and be able to reference some more the documents, but I would.

1:24:48.330 --> 1:24:59.290

Owen, Sarah

I would, I would guess that the other Munich is noise are gonna have a similar use profile or I guess I should say if they have a similar use profile being.

1:25:0.260 --> 1:25:3.90

Owen, Sarah

Approved for use on foliar.

1:25:3.790 --> 1:25:24.360

Owen, Sarah

Uh produce as well as sea treatments. I think that the residues that were exposed to are gonna largely be fully air and you know, overall neonicotinoids have a really favorable human health toxicity profile, which is, which is good. You know they replaced organophosphates, which are really, really toxic to humans. And I did look through some of the studies that were in the.

1:25:25.50 --> 1:25:26.450

Owen, Sarah

Uh team site.

1:25:27.960 --> 1:25:32.450

Owen, Sarah

None of them were incredibly relevant to to just seed treatment.

1:25:33.850 --> 1:25:45.550

Owen, Sarah

So, you know, certainly with too much you doing, you can have sort of nicotinic effects, but overall the talks profiles for, you know, the toys are better than lots of other pesticides.

1:25:47.610 --> 1:25:51.280

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Thank. Thank you very much Sharon. This is there any of the board members have any questions?

1:25:54.290 --> 1:25:58.460

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So, Sarah, relative to the timeline, I think, I think it's sort of.

1:25:59.900 --> 1:26:20.90

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Well, it's undefined at this point, righteously. We're going to have to do a report toward the end of the year, but it's kind of dependent on like if you had family was a huge problem that would drive the title differently than you know, finding that it's, you know, relatively low risk. So I think the best answer is just keep plugging away when you get a chance on the other on the other.

1:26:21.600 --> 1:26:27.970

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The other actives and if you see something that's a big red flag, obviously bring it forward and then we'll we'll incorporate into the.

1:26:28.710 --> 1:26:29.720

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Into the.

1:26:30.790 --> 1:26:45.10

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The process, but at this point I think it would just, you know, it'd be sort of you just keep doing it as you have time and toward you know the toward the end of the summer maybe or the end of the fall is when we'll start pulling it all together. That's what I'm thinking, unless somebody has another.

1:26:45.950 --> 1:26:47.140

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Another idea.

1:26:55.910 --> 1:26:56.130

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yes.

1:27:7.30 --> 1:27:8.170

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But in but.

1:26:46.360 --> 1:27:8.720

Owen, Sarah

OK, thanks. And I, I definitely have the easier portion of the assignment, you know looking at eco toxicology risk is a completely different scenario. I think with many more relevant papers, many more concerns, but that's outside of the scope of what what I do. So I just want to acknowledge that my my part was relatively easy. So good luck to those with the on the eco side.

1:27:9.350 --> 1:27:14.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But important, I mean, if it's a critical part of the whole process, so we appreciate you doing it.

1:27:15.600 --> 1:27:15.880

Owen, Sarah

Umm.

1:27:16.180 --> 1:27:16.380

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So.

1:27:18.40 --> 1:27:21.280

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, unless somebody else has a question, what's who do?

1:27:22.400 --> 1:27:23.670

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Morgan in the.

1:27:24.710 --> 1:27:28.360

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Child who's not here, and hopefully he's doing well. She's out, right?

1:27:30.770 --> 1:27:43.260

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah. So I do and I split as Sarah Loosu, we had a taller task and the word chipping away at it, and Jill and I split the references.

1:27:45.60 --> 1:27:49.910

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That members sent to us, umm and that were on the team site.

1:27:50.950 --> 1:27:52.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Jill is unable to join us today.

1:27:53.70 --> 1:27:55.650

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm so I am.

1:27:56.430 --> 1:28:12.820

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Covering. So I apologize if I don't know the most about the first studies that I'm talking about just because they were ones we divided and conquered, and now I'm doing all so I don't know all the details from her studies, but we'll do our best.

1:28:21.600 --> 1:28:24.150

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So yeah, so we are.

1:28:26.960 --> 1:28:35.90

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Basically, our purpose was to look at environmental impacts of Munich tree seeds.

1:28:35.870 --> 1:28:37.550

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So we kind of.

1:28:38.230 --> 1:28:56.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Did a little narrowing just because it was a lot and we wanted to have something to say today, so we kind of selected papers that were newer, so we went for the last five years and then we went for ones that were specifically talking about Munich seed treatments.

1:28:57.380 --> 1:29:3.90

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, I think there was one in there about human health. So we say that for Sarah and then.

1:29:3.960 --> 1:29:22.710

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We really focus on the ones that you guys did. The parent sent a list when you two sent a list. Claris sent a list from. I think that was forwarded to her from some beekeepers. And so we focused on those lists first, just because those are the ones that were sent out to everybody. So we are. But if there's more.

1:29:23.540 --> 1:29:30.250

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And like I said at the beginning, if there's more, if you come across something else, just let us know. We'll keep, we'll keep the process going. This like she said, it's kind of.

1:29:30.930 --> 1:29:35.410

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We'll keep going as as pertinent information comes up.

1:29:37.690 --> 1:29:44.410

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So the first one I still looked into is the 2020 bioscience paper.

1:29:45.340 --> 1:30:3.470

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uncalled towing uncertainty. What we do and don't know about the planning of pesticide treated seed, the IT really highlighted the limited. It was a review paper. It really highlighted the limited availability of accurate data of the use of tree seed in USA.

1:30:5.230 --> 1:30:10.440

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And then it kind of talked about how like a little bit of the history of what Heather was just telling us of.

1:30:11.970 --> 1:30:21.170

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

How sea treatments kind of went more towards bundling more and more with the GE trades so that untreated versions?

1:30:23.0 --> 1:30:25.90

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Became less and less available.

1:30:26.140 --> 1:30:30.570

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But as the sales of treated seeds increase.

1:30:31.300 --> 1:30:39.830

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

They referenced some surveys showing that the farmers knowledge decrease about what specific treatments were on their seeds.

1:30:40.480 --> 1:30:56.390

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So an example of this was in 2016, a survey of corn growers showed that 28% of farmers indicated that they used fungicide treated seeds, but at that time it was pretty much universal at all. Of course, these were treated with punch that.

1:30:59.780 --> 1:31:2.450

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So then this is still on the same paper.

1:31:3.790 --> 1:31:12.60

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So basically that the lack of that consistent and comprehensive usage data for treated seeds is a challenge for policymakers.

1:31:13.590 --> 1:31:19.840

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And then also they called out basically a room for improvement for capturing.

1:31:20.770 --> 1:31:28.650

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The amount of pesticides has on those trees, right? So it's treated seeds. So we, you know, even in Vermont we track.

1:31:29.460 --> 1:31:33.410

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Usage of pesticides. But we're not tracking that.

1:31:37.100 --> 1:31:38.320

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So the next.

1:31:39.890 --> 1:31:41.240

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Paper that.

1:31:42.200 --> 1:31:44.720

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Still went through with a.

1:31:45.710 --> 1:31:54.100

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Lattice paper from 2018 called the Environmental Risks and challenges associated with new and Nick insecticides.

1:31:55.980 --> 1:32:6.850

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And so the key points made were about how sea treatments lessened, the use overspray and drift.

1:32:7.310 --> 1:32:8.80

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

1:32:9.690 --> 1:32:14.460

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But that they are seeing, like her detections.

1:32:15.300 --> 1:32:18.650

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

In the environment. So in pollen, soil, water and honey.

1:32:20.40 --> 1:32:21.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uh also so.

1:32:22.630 --> 1:32:47.30

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Pollinators and aquatic insects are highly susceptible to Munich, and so the current research shows that the chronic sublethal adverse effects are more prevalent than acute toxicity so exposed to a little amount over time, affecting pollinators and product insects is seen more often in research than like a detailed so like a cute.

1:32:48.390 --> 1:32:51.610

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Please love you the most. Like colony collapse disorder.

1:32:54.950 --> 1:33:5.240

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I don't know if I don't know the yeah, yeah, yeah, so it would be like a basically is effects, killing them, but they're hurting them right.

1:33:6.230 --> 1:33:18.480

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So I so was that based on, I mean did they cite other studies showing sublethal effects or? Yeah, yeah. And this is this is a review board. Yeah. So yeah, there.

1:33:19.370 --> 1:33:33.960

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Right. So most of the ones that we that we're providing are review. So it's kind of it is like some of the ones that we'll talk about later are specific studies, a lot of ones we started big. So we started review kind of just pull out the.

1:33:35.20 --> 1:33:37.940

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Main yeah, like key points sort of of.

1:33:41.320 --> 1:33:52.690

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Are they did point out, which obviously is not an environmental impact about that. There hasn't been consistent data on yield benefits from the use of the NEONET treated seeds.

1:33:54.400 --> 1:34:21.70

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And there are a lot of some of the other references that were provided by Members really deal with with that the kind of the yield, the efficacy of the new nick treated seeds and they are included a summary of those are included in that annotated bibliography that I sent out on. That's on our team site on Friday. But we didn't make slides for those ones just because they're not environmental impact. It's just more about the efficacy of the of the trees need itself.

1:34:24.540 --> 1:34:28.510

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So this is still that same review article and.

1:34:30.160 --> 1:34:34.160

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

It points out that new units are highly water soluble.

1:34:35.320 --> 1:34:39.350

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And so it's pretty easy for them to transport.

1:34:40.110 --> 1:34:52.640

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm. From their intentional place to their non intentional right? So they're non target locations. Sorry. Is there a I guess second bullet point and I may be jumping ahead but that?

1:34:53.990 --> 1:35:14.320

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Is there a half life on that 95% that remain in soil? Is there test on that? Yeah. And it's really highly

dependent. I do have a study later on that calls out a little bit about half life and it really is depending on a lot of different characteristics and conditions in the soil. But the other thing to point out is that.

1:35:15.700 --> 1:35:31.200

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Munich breaking down and a lot of these, at least two of them have said this new and it's breaking down doesn't necessarily make them less toxic. So some of those, like metabolites, was degraded. Those munix are the same. Toxicity is not more toxic.

1:35:31.840 --> 1:35:35.670

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Then they're original chemical. Yeah, yeah, I see.

1:35:36.350 --> 1:35:47.440

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So yeah, but yeah, and this actually there's a lot of different numbers that were thrown out in, in these articles about how the percent of the active ingredient that's on the seed.

1:35:48.60 --> 1:36:5.630

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That gets absorbed by the crop, so this article said about 5% of the active ingredients on the seed is absorbed by the crop. And then so then that leaves 95% to either be in the soil or in the water.

1:36:6.670 --> 1:36:15.960

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm. And then they said that, uh, less than two percent is lost to desktops during the planning process. I do not know about which.

1:36:16.660 --> 1:36:28.90

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

How that's affected by what planting practices that we were talking about, obviously it's affected by your type of planter and your weather conditions. String, I think time.

1:36:32.830 --> 1:36:33.440

Cutler, Clarice

Hey, Morgan.

1:36:32.70 --> 1:36:35.880

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, same article. Yeah. Yep.

1:36:34.430 --> 1:36:37.260

Cutler, Clarice

Morgan. Sorry, are you sharing slides right now?

1:36:38.850 --> 1:36:44.280

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Ohhh, my gosh, they're not seriously because hold on, let me get out.



1:36:43.480 --> 1:36:44.650

Cutler, Clarice

It could just be me.

1:36:45.360 --> 1:36:46.230

Cutler, Clarice

But I don't see them.

1:36:45.200 --> 1:36:49.800

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

No, no, you're right probably, but I just not there showing yourself.

1:36:53.220 --> 1:36:53.670

Cutler, Clarice

Thanks.

1:36:51.0 --> 1:37:10.590

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

From showing them to the room. I'll, I'll pipe in. And this goes this is 6-7 years ago. Going back to the metabolites, one of the neonics, I don't know which one it is, breaks that one of the top six breaks down into one of the top six. I forget which one it is. I am Methoxyl breaks down into cool right.

1:37:14.540 --> 1:37:21.860

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So even when it's broken down, it's still needed still, right? Right. So it's so until that breaks down. Yeah, go ahead.

1:37:26.80 --> 1:37:29.710

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Well, now you can see it there. I can't see on my computer so.

1:37:38.370 --> 1:37:41.320

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I lost all control. Ohh you can't do anything.

1:37:44.290 --> 1:37:51.230

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Because I was thinking, are you on an extended screen? Maybe do a windows? Yeah. OK, got it.

1:37:52.410 --> 1:37:52.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK.

1:37:57.960 --> 1:38:1.660

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

God can folks see now? Is it better? I'm really sorry about that, guys.

1:38:6.440 --> 1:38:6.960

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

1:38:2.770 --> 1:38:9.320

Cutler, Clarice

Now we can see your note. It's like presenter mode which is still functional, I'll just squint.

1:38:11.240 --> 1:38:15.820

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

American hitman. Little window key. Yeah. Hold that down and push key.

1:38:16.680 --> 1:38:18.240

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Until it says duplicate.

1:38:19.280 --> 1:38:20.680

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Like they go through the P.

1:38:22.230 --> 1:38:31.960

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

You've got an extent you're seeing there you go and now go up to your display settings and reverse. I don't care if we see this, but I don't swap or center Rd.

1:38:35.800 --> 1:38:36.480

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, click it.

1:38:37.250 --> 1:38:37.590

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK.

1:38:41.960 --> 1:38:42.980

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I don't know what they see.

1:38:44.730 --> 1:38:48.570

Cutler, Clarice

That's still in presenter mode, but it's OK this. Yeah, thanks.

1:38:52.150 --> 1:38:55.220

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

You right click on this, I think you can get out of presenter mode.

1:38:56.0 --> 1:38:56.970

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I presented to you.

1:38:59.300 --> 1:38:59.670

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Awesome.

1:39:0.800 --> 1:39:1.740

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Sevensers clear.

1:39:2.920 --> 1:39:3.790

Cutler, Clarice

Yeah. Thanks so much.

1:39:4.370 --> 1:39:5.590

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah. Thank you. Sorry.

1:39:7.460 --> 1:39:7.940

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK.

1:39:8.20 --> 1:39:14.670

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, so this, uh, the point that they are making here is that?

1:39:15.890 --> 1:39:22.590

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

When fields are soils of fields that are planted with neonics, trees, seeds.

1:39:24.580 --> 1:39:35.520

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Increase each subsequent planning year so the level found in soils increased it, but it plateaued after approximately 5 years.

1:39:37.160 --> 1:39:39.190

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But then that.

1:39:40.480 --> 1:39:46.740

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The levels in the soil persisted several years after you didn't plant, you know, next heated seats.

1:39:47.700 --> 1:39:48.160

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

1:39:49.340 --> 1:39:55.380

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Pushing that was interesting, but in hopefully we can delve more into that if we need to.

1:39:56.290 --> 1:39:58.800

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And then some water sampling.

1:39:59.910 --> 1:40:15.630

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So pretty high percentages of detections, so from at least one new Nic detected in 76% of sampling and highly cultivated areas. And then just over 50 in mixed land use areas and that was in the Midwest.

1:40:16.940 --> 1:40:19.640

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And that's surface water sampling I believe.

1:40:21.380 --> 1:40:29.320

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, so service of water sampling, so those detections are obviously high. They're calling out that it is multiple sources, so it's not.

1:40:30.10 --> 1:40:31.890

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Specifically, knew that treated seeds.

1:40:32.360 --> 1:40:38.190

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm you. It could also be from other applications.

1:40:41.730 --> 1:40:45.200

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So this same review article.

1:40:47.490 --> 1:40:49.450

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Talked about honey.

1:40:51.130 --> 1:40:53.490

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Sampling from around the world.

1:40:55.80 --> 1:40:57.770

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So yeah, this is pretty broad.

1:40:57.860 --> 1:40:59.570

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uh, so?

1:41:0.890 --> 1:41:5.160

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Right. We don't know regulations around the world or anything like that, so.

1:41:6.540 --> 1:41:17.900

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But it's it's out there and then so it also referenced some European studies, European studies about movies and Mason bees were.

1:41:19.880 --> 1:41:25.730

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Affected when they were adjacent to fields planted with neonics treated seeds.

1:41:27.220 --> 1:41:28.610

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Ah, the.

1:41:29.720 --> 1:41:49.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Honey bees had very well that, so it wasn't as clear adverse effect. It was clear adverse effects on bumblebees and Mason bees in the majority of these studies in Europe and honeybees, there were some field trials that found no negative impacts on honey bees that were adjacent to new next treated.

1:41:51.200 --> 1:41:52.250

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Key point things.

1:41:53.820 --> 1:41:54.570

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

1:41:55.720 --> 1:41:58.770

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And that was the only insecticide used on those fields or.

1:42:0.640 --> 1:42:7.950

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Is it only insecticides? Are those the only insecticide? Yeah, I don't know. I don't know enough. So, yeah, it's a good question.

1:42:8.650 --> 1:42:9.240

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

1:42:10.640 --> 1:42:12.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But we can look into those reference.

1:42:15.940 --> 1:42:19.490

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Studies for sure. If we if we need to.

1:42:21.360 --> 1:42:22.410

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And then.

1:42:24.120 --> 1:42:28.800

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So they did do in the UK, they have some a study about.

1:42:29.800 --> 1:42:44.490

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The like prediction modeling of wild bee populations kind of correlating with the regional patterns of new Nic use and it did say that there's further studies in California that had similar results for these prediction models.

1:42:49.520 --> 1:42:50.420

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So.

1:42:52.90 --> 1:42:58.280

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Same thing. This is not review article, so it's highly toxic to.

1:42:58.930 --> 1:43:12.810

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The chronic insects, and so they're just pointing out the how aquatic insects can affect multiple things right there. And it's cool kind of bottom layer of lots of food webs.

1:43:14.170 --> 1:43:16.440

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And then another kind of.

1:43:17.450 --> 1:43:22.640

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Root for non target exposure is direct consumption of the treated seed by birds.

1:43:23.530 --> 1:43:24.110

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

1:43:25.780 --> 1:43:28.700

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

As well, that can impact reproductive ability.

1:43:30.580 --> 1:43:31.370

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And.

1:43:33.440 --> 1:43:40.170

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Flight and loss of body mass and I do have we have 122 you provided and I will talk about that later about.

1:43:40.240 --> 1:43:42.850

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

From turkeys in Ontario.

1:43:43.980 --> 1:43:50.710

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm. And so also indirect effect. This last bullet is kind of about like with neonics. Treaties do their job.

1:43:51.470 --> 1:43:59.640

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Even just on target test that can deplete food sources for birds that are wanting to eat those in.

1:44:0.440 --> 1:44:8.30

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, so it's kind of just getting like the the bigger picture of how how everything can be affected even when they're doing what, staying where they want our supposed to.

1:44:10.930 --> 1:44:22.820

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Ah, OK, so same article. So he represents his studies. We did talk about this degradation, right? Doesn't necessarily mean less toxicity. So we talked about that already.

1:44:23.770 --> 1:44:24.550

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

1:44:26.440 --> 1:44:29.330

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The second point is about how it's it's.

1:44:30.430 --> 1:44:35.530

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Increasing right. So now basically 100% of of corn crafts.

1:44:36.580 --> 1:44:37.850

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And grow crops.

1:44:37.940 --> 1:44:40.820

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, are treated with neonics.

1:44:41.850 --> 1:44:51.500

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And you'll benefit are varied based on research. And so this talked about.

1:44:52.380 --> 1:45:13.900

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That sea treatments are violating one of the key principles of integrated pest management because it's a prophylactic treatment, the targeting and occasional past. So and that there's evidence that a pest resistance is increasing with the increased use of neonet use. And so that is kind of the main point that this review.

1:45:15.610 --> 1:45:16.30

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

May.

1:45:16.970 --> 1:45:25.40

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So next study that Jill looked at is about they sampled tributaries in the Great Lakes region.

1:45:25.890 --> 1:45:27.700

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, so it's basically a surface water.

1:45:29.250 --> 1:45:41.200

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Study and they sampled basically for from October 15th September 16th they found 74% of all the samples had at least one neuronics.

1:45:42.240 --> 1:45:43.170

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And.

1:45:44.260 --> 1:45:47.0

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Up to three were detected in 10% of the samples.

1:45:48.80 --> 1:45:52.70

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uh the 4th point here. UM calls out, so the.

1:45:52.830 --> 1:45:55.790

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Areas that were sampled that were near.

1:45:56.380 --> 1:46:2.160

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm cultivated crops had higher concentrations of cultivation and.

1:46:3.390 --> 1:46:4.520

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Fire cooperated.



1:46:6.950 --> 1:46:12.720

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Whereas in the urbanized areas, detections of the middle flow threads were increased.

1:46:13.840 --> 1:46:18.640

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm they did see higher levels in the summer, but they they saw them throughout the whole year.

1:46:19.990 --> 1:46:22.390

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So here are some of the numbers that they saw.

1:46:23.750 --> 1:46:35.220

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I wrote this down a lot of times. If you have seen, I know that I presented last year about the Surface water results for Vermont and so those numbers we often.

1:46:35.910 --> 1:46:37.300

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Show in.

1:46:38.400 --> 1:46:50.50

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Parts per billion PPB. So basically you just have to move your decimal point to the left three for these numbers. So this is the presented them in nanograms per liter.

1:46:51.210 --> 1:46:57.160

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So maximum individual neonet detected with .33 PPB.

1:46:58.70 --> 1:47:6.740

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

A maximum total neonics detected with .67 PB and this is in the median, was .007 to .039 P.

1:47:8.690 --> 1:47:16.160

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So they were comparing these I think to three different kind of benchmarks. And so EPA aquatic life benchmarks.

1:47:16.870 --> 1:47:21.840

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

They're again. This is from 2018 and some of those benchmarks have been updated.

1:47:22.320 --> 1:47:22.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

1:47:24.620 --> 1:47:28.490

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But a lot of them are in to the 16, so they might be OK. I didn't double check.

1:47:30.210 --> 1:47:39.770

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So this just gets a comparing a benchmark to the number of samples that they collected that exceeded that benchmark for acute and or chronic.

1:47:41.80 --> 1:47:41.550

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Level.

1:47:44.990 --> 1:47:54.740

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uh, right. So their overall conclusion in this study of the tributaries for Great Lakes was that there's evidence for potential chronic.

1:47:55.720 --> 1:47:56.970

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Toxicity impacts.

1:47:58.780 --> 1:48:10.410

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Through because it was a deer constant exposure to Munich to individual attacks that but more research is needed to understand the kind of potential effects of this year round exposure.

1:48:13.830 --> 1:48:16.640

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So then we went on to.

1:48:16.720 --> 1:48:21.50

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, so I know Terry had provided this is that.

1:48:21.130 --> 1:48:25.790

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, really exhaustive lit review from out of Cornell.

1:48:26.570 --> 1:48:28.630

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm and.

1:48:29.340 --> 1:48:48.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

It's 430 pages long, so where I started was the section on environmental fate. But if we can chip away for more of it as we go. But I thought we'd start just needed to start somewhere. So this is.

1:48:49.650 --> 1:48:54.180

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Calling out the kind of the the roots of exposure to pollinators. And so it's either.

1:48:54.670 --> 1:48:59.560

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm. From dust that planting or the persistence and transport within the environment.

1:49:0.760 --> 1:49:3.550

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

They did call out research.

1:49:4.420 --> 1:49:31.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

It's about mitigating the dust from treated seed through the use of lubricants, redirecting or filtering the exhaust from the planters, and also avoiding planting during favorable weather, which of course is dry and windy. We need dry up. We could maybe make a decision around windy, so they referenced the study that compared an advanced seed lubricant, but they didn't say what it's just like, that's like trademark advanced seed lubricants.

1:49:32.400 --> 1:49:38.710

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, compared to talking graphite and it's significantly reduced the dust from the abrasion of the seeds.

1:49:39.440 --> 1:49:54.900

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm. And also mechanical type planters are found to produce less stuff than the vacuum type, so we were just kind of talking about that. But we can definitely look more into those specific settings. The data this this is active lit review is 2020.

1:49:58.180 --> 1:50:12.50

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So this one so like some more numbers about how much of the active ingredient on the treated seed is absorbed. So this one is saying anywhere from 1.6 to 20% of the active ingredient on the treated seeds.

1:50:13.330 --> 1:50:17.310

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Is absorbed, but it depends on the craft and then the environmental conditions.

1:50:18.780 --> 1:50:29.640

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So the persistence in the soil so seasons your question, it depends on pH, temperature, how much moisture is in the soil organic matter, root system, soil structure and texture.

1:50:30.250 --> 1:50:30.920

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So.

1:50:31.790 --> 1:50:36.860

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Half life you see here range from less than 90 days.

1:50:37.650 --> 1:50:45.0

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

For some neonics to several years, so here you can see it eight years for a Mini Cooper, 19 for copian.

1:50:47.170 --> 1:51:1.360

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

In water, the persistent depends on pH, but also UV radiation. So in surface water you're exposed to sunlight, so half life can be much shorter and surface water.

1:51:2.0 --> 1:51:4.550

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm. And then.

1:51:6.940 --> 1:51:14.100

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, we made the same point which we said before as just breaking them down doesn't make them harmless. Some of the breakdown products are.

1:51:15.540 --> 1:51:17.960

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

As toxic, if not more to be.

1:51:23.880 --> 1:51:27.530

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So this is a figure from.

1:51:28.750 --> 1:51:41.770

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That the the full review article and it basically calls out. So they took, they lumped together all of the research to get all of the exposure data and so and they.

1:51:43.230 --> 1:51:44.80

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Made.

1:51:45.230 --> 1:52:9.610

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Some pie charts to show in red as I know that words are hard to read, but so basically the red is when those exposures were above the lowest observe effects concentration and then the blue is when those exposures were below the observed effects concentration. And this is for honeybee. And so then the different pie charts are for the honey bee Physiology, behavior and reproduction.

1:52:10.530 --> 1:52:33.480

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm. So fuel caps. And so the the authors of this review really call out that there's a lot more data

available for field crops, which is what we're looking at. That's that's the tree to see. There's a lot more data for the use of neonics on field crops. Then there are for the other uses listed here in the figure.

1:52:35.170 --> 1:52:35.790

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So.

1:52:36.590 --> 1:52:45.90

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

You can see in field crops you know about half a little more than half on some were above the exposures were above that LEC.

1:52:45.830 --> 1:52:46.800

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Threshold.

1:52:47.160 --> 1:53:5.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, but then you can see in like the turf grass and ornamentals use. It's a pretty a higher incidence of exposures above that. Yeah, yeah, but this is all the units, not just treated seats, correct. So this is all the other applications, yes, a lot of fruit crops, yes, that's all.

1:53:6.690 --> 1:53:13.100

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, yeah. So did they do anything to just pull out the? No. OK.

1:53:13.860 --> 1:53:14.420

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

1:53:15.290 --> 1:53:16.250

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

They did not well.

1:53:17.490 --> 1:53:20.280

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Not. Yeah, I haven't read all 430 pages.

1:53:21.880 --> 1:53:29.50

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So may I take that note back? Maybe my I really, I mean I searched the store treated season so.

1:53:29.790 --> 1:53:32.90

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Soft presentation of this meeting.

1:53:32.170 --> 1:53:33.680

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And then there was, yeah.

1:53:35.660 --> 1:53:43.40

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah. So they really calling out like, yeah, there's not a lot of data for the other uses, right. So fieldcraft is the where the most data is.

1:53:46.90 --> 1:53:47.930

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So because that.

1:53:48.200 --> 1:53:52.890

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, because that review article is very big.

1:53:53.30 --> 1:53:59.220

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

UH-22 timely provided us with the publication that was the same author.

1:53:59.980 --> 1:54:8.470

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Making a summary of their review article for us. So this is the summary of the summary that's authors did of their own review.

1:54:9.980 --> 1:54:16.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So now we're however many degrees away from it, but it's the same authors, at least so.

1:54:17.860 --> 1:54:31.670

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

This is the the chart is kind of showing the same thing the the red line is that that lowest observed effective tax situation but the dots just give you an idea of the amount of data per use, right. So the field classes upper left.

1:54:32.530 --> 1:54:33.230

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So.

1:54:35.330 --> 1:54:42.480

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Their their main points are risk from neonics are high in field crops, there is less data available for the others.

1:54:43.480 --> 1:54:51.50

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And it calls out 74% of the exposures are likely to impact the honey bee Physiology. 58 of the exposures are likely.

1:54:51.760 --> 1:54:57.690

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

For behavior and 30% thirty, 7% of the exposure are likely to impact honey did reproduction.

1:54:59.400 --> 1:55:22.530

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So they did make the point that there are hundreds of studies that are assessed about the hazards of Munich, so about how doses of neonics impact be, mortality, reproduction, behavior and Physiology. There are fewer studies available that are assessing exposures to bees in the settings where they are field. So basically, where they are used. So basically in the field.

1:55:25.240 --> 1:55:30.210

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I just wanna. Yes, this again. I mean this is Steven mentioned before that the prior study.

1:55:31.310 --> 1:55:40.150

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

With all neonet usage full year saying same. OK, yeah. Confirm. Yeah. Yeah. OK. Yeah. Thanks.

1:55:41.730 --> 1:55:55.320

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Also, so this summary article also in the annotated bibliography, we summarize. They do really go into yield data also from pulling together all the available research on yield and efficacy of.

1:55:56.320 --> 1:56:4.540

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Of the unique treated seeds after we didn't put it in the presentation, but it's in the annotated bibliography, so you can go in and read it. A summary of the summary of the summary.

1:56:5.960 --> 1:56:9.530

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And losing degrees of freedom. Yeah, yeah, very bad.

1:56:11.260 --> 1:56:16.290

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, so this one is a study from 2019.

1:56:17.630 --> 1:56:23.20

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

This is a first first degree study, so they wanted to look at.

1:56:23.680 --> 1:56:43.670

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Quantifying the meeting potential of from Munich, Munich trees he's planted in Indiana corn. So then they wanted to take those concentrations found and then use them in lab experiments to see how duckweed would update that new unit. And then afid fed on that duckweed.

1:56:44.710 --> 1:56:48.480

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

How kind of went up through the trophic levels of the food web?

1:56:49.120 --> 1:56:53.500

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So water samples were taken from tile drains in three different craft group.

1:56:54.120 --> 1:57:0.680

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So one was corn pops, they had 1.25 milligrams of clothianidin per kernel corn.

1:57:1.590 --> 1:57:2.920

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Two was.

1:57:3.610 --> 1:57:6.810

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Newly created seed free soybean crop.

1:57:7.900 --> 1:57:18.660

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And then three was yonic treated seed 3 control plots, meaning they they had only. They were kind of annual stuff.

1:57:20.110 --> 1:57:20.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So.

1:57:22.990 --> 1:57:32.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Again, this is water tables. Tile drains, so cool. Herman was never above .1 PPB in the control plot.

1:57:34.10 --> 1:57:43.840

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

A maximum of 3.37 parts per million was collected after a rainfall event four weeks post plant in the cornflakes.

1:57:44.630 --> 1:58:0.700

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So this concentration is 10 times higher than previous research levels had seen in the surface water. So like those great like, Yep, so this is tile drain. So they were saying the levels that are seen in surface water.

1:58:1.500 --> 1:58:14.660

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Detections you know they're saluted. It's a it's an entire, you know, water system. And then also that photo degradation that we talked about that is in the subject to and surface water.

1:58:15.990 --> 1:58:46.400

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So the second objective of the study, so yes, the duckweed that was grown in the clothianidin contaminated water showed the rapid uptake of the clothianidin. But the aphids that were basically



were fed the document for 48 hours, did not suffer acute mortality. So again, it was an acute focus study. They didn't study a chronic exposure. If they ate that for longer than 48 hours, but acute, they did not suffer.

1:58:49.910 --> 1:58:58.320

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uh, OK, Next just real quick. Yeah, my work. How many more you got to do? Well, we can we can.

1:59:0.320 --> 1:59:3.530

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, I mean I have we have till 3:00 o'clock.

1:59:4.670 --> 1:59:5.500

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I have three more.

1:59:6.690 --> 1:59:26.360

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Study so I can wait for me to push that. It's a pleasure to be here. Three more. Yeah. Alright. This one is new electric seeds. And then how it moved to milkweed and other kind of broad leaf plants.

1:59:27.460 --> 1:59:34.430

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Around in prayer, ships that were either in or next to corn and soybean field. So.

1:59:37.150 --> 1:59:47.830

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

100% of the soil and 80% of the vegetation from Blooming Forbes and 80% of the milkweed leaf tissue had at least one NEO neck present above the detection limit.

1:59:49.470 --> 2:0:9.810

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So the Max Constitution that were detected in the milkweed leaf tissue were 10 to 130 times lower than the chronic dietary values for monarch butterfly larva. So they are looking at a specific pollinator monarch butterfly associated with the milkweed and so.

2:0:10.670 --> 2:0:18.690

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

It was there. It went to the milkweed, but because the values that were detected there were much lower than the chronic dietary.

2:0:20.70 --> 2:0:26.190

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Thresholds for affecting the larvae. They were saying that basically this exposure route.

2:0:26.800 --> 2:0:46.830

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm was unlikely to cause adverse effects on monarch butterfly larvae. They did point out that the most likely exposure route to nontarget is that surface and subsurface runoff because they didn't see a

spike in concentration in the foliar samples after planting as they thought they might if it was due to dust script.

2:0:50.370 --> 2:0:52.740

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So another one looking at.

2:0:53.140 --> 2:1:21.690

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uh, how new next seed treatments affected the wild deep community in the margins around agricultural field, so this one was soybean fields with three treatments. One was untreated, so no prior neuronic use at all. Treated so continuously. Props with Munich treated seeds for over 5 years, and then the third treatment was previously treated. So it was planted with untreated, but they had used neuronic treated seeds.

2:1:23.270 --> 2:1:24.860

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Prior to the start of the study.

2:1:26.60 --> 2:1:26.600

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So.

2:1:27.490 --> 2:1:29.200

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

They tested.

2:1:30.790 --> 2:1:37.280

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The flowers of the for free plants, also the flowers of the crops themselves.

2:1:37.940 --> 2:1:43.970

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

They and they saw basically they only saw consistent detections in field soil.

2:1:44.960 --> 2:1:50.250

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So the chart kind of calls out the number of detects that they found.

2:1:51.550 --> 2:1:54.440

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Overtime, in each of the.

2:1:56.450 --> 2:2:0.260

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Seed treatment so it's untreated, previously treated, and then treated.

2:2:1.430 --> 2:2:6.600

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So I see they and then they saw.

2:2:7.410 --> 2:2:13.240

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Correlated these soil levels to how wild bee nest and diet yields.

2:2:13.790 --> 2:2:16.0

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, we're doing so.

2:2:17.870 --> 2:2:20.760

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The presence of Munich in the field soils reduce.

2:2:21.630 --> 2:2:34.520

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And I'm I'm not versed in in the terminology, but so it's basically it reduced the wild beast nest and the diagonals living in or near those agricultural fields over the two seasons.

2:2:35.270 --> 2:2:47.520

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And so they did see an effect from these soil detects on the wild bee communities because they specify where they ground nesting bees or. Yeah. So it's all of them. I read this out here.

2:2:48.170 --> 2:2:48.590

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Around this.

2:2:49.700 --> 2:2:53.480

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, the majority of them are ground nesters, but OK, I can look back.

2:2:54.720 --> 2:2:55.550

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That grant.

2:2:56.380 --> 2:3:4.960

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So the presence of Munich and field sources was associated with significantly lower species richness, so ground and above ground nesting and diet generalists.

2:3:5.780 --> 2:3:6.680

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK. Thanks.

2:3:9.780 --> 2:3:23.420

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So last one is Wendy, Tues, wild turkeys. So this one just to show a different aspect of it is they tested the livers of 40 wild turkeys that were.

2:3:24.220 --> 2:3:33.620

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Taking during the hunting season in Ontario and they tested for the two clothianidin assignments, Oxfam and then the.

2:3:35.310 --> 2:3:39.710

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Whoever it is, all which is the fungicide from Munich treated seeds.

2:3:41.80 --> 2:3:45.940

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So they found you see the number of surface where they found.

2:3:47.200 --> 2:3:50.730

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

An instance of the chemicals.

2:3:51.780 --> 2:4:5.230

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

They don't have a number to compare it to the the maximum concentrations that were detected were below the acute toxicity LD50 values for for that they have the numbers for. So like grey Partridge and Japanese quail.

2:4:5.850 --> 2:4:11.420

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, but obviously further research needs to happen. They don't know how.

2:4:12.170 --> 2:4:29.50

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The chronic health or reproductive is going to be affected in these wild turkeys if they're exposed. Repeated exposure for meeting these not so it's in them, but they don't know how it's going to affect them. Yeah, that's it. Thank you very much.

2:4:29.130 --> 2:4:30.540

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm or work?

2:4:32.600 --> 2:4:46.650

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Now, so the the papers are on the team site. Papers are on the team. Are your summaries the annotating the IT is on the team site. This will be on the team site. It's not there yet, but this was emailed out enough that the slides but.

2:4:46.730 --> 2:4:53.640

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Stability. Agrapha was. Yeah, OK. Any board members have any questions or anybody else have any questions for me?

2:4:54.770 --> 2:4:59.40

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Thank you. Yeah. Thank you. Yeah. Yeah, I realized I just threw stuff at you now.

2:5:0.190 --> 2:5:9.710

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So, so one one comment I'll make is that obviously they're just they're just starting to get into this. So if you come across other papers, let us know.

2:5:10.340 --> 2:5:16.370

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uh, you know, always invited to send send us documents you come across?

2:5:17.900 --> 2:5:39.100

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Or do you know read? Read the papers yourselves and present. Yeah. And then the word, the Word document of the annotated bibliography is also on the team site. So Jill and I collaborated on that and and I'm OK. I mean we can see who edits if you have one, throw it in there if you want to do your own summary. But I'm also OK doing it do if you just send me the site.

2:5:40.350 --> 2:5:50.280

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, yeah. This is an ongoing project. Obviously, we want more, you know the the more the merrier. Basically, I'm seeing a chat and someone's asking questions, OK.

2:5:50.710 --> 2:5:58.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm one question I have for you more. Yes. Did you in the any of the documents did you look at the EPA's Echo?

2:5:59.360 --> 2:6:29.490

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Toxicology. So that's my next. I do. I wanted to say that thank you for reminding me. We did not because we because we did the ones that were sent to us by the Members. But I do think our next step is the EPA assessment and the EPA reregistration documents. Yes, they're going through registration and they will have assessment as part of the reregistration. I think we've heard that there's at least three different neonicotinoid pesticides that are going through registration review through EPA like now or.

2:6:29.570 --> 2:6:51.210

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I think it's a big it's those difficulty and if I'm correct, I think one of the main focuses of the layers reregistration is Endangered Species Act. I might be wrong, but part of it, yeah. If they're doing reregistration, they're doing. Yeah. But there's there's a new standard of how to apply, and I'm just going off of.

2:6:51.900 --> 2:6:57.800

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

My e-mail threads that come from the EPA, basically a way that they look a little bit more deeply at things based on.

2:6:58.620 --> 2:7:7.560

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Well, the dangerous species Act well, there, there. There's a lot going on with the danger species right now, but the this particular thing they're looking at now for endangered species.

2:7:8.600 --> 2:7:23.370

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Is they have adopted or they have a center proposals for what they call interim ecological mitigation measures, and they're looking at applying those to interim registration decisions.

2:7:24.360 --> 2:7:25.940

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So yeah, there's a lot going on, right?

2:7:27.20 --> 2:7:31.440

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So anyway, well, thank you very much and.

2:7:32.880 --> 2:7:37.110

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, we're up, right. Yeah. OK. We need to take a break, everybody OK.

2:7:38.230 --> 2:7:45.350

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I'm gonna talk. No. Does anyone need a break or you can take? You're free to take a break. But it's wonderful. My water. I'll bear.

2:7:45.620 --> 2:7:46.130

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah.

2:7:47.340 --> 2:7:55.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, so the next item on the agenda is the result of the agricultural input survey. Yes, the board conducts annually.

2:7:58.90 --> 2:7:59.20

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So we shared.

2:8:1.410 --> 2:8:1.850

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So they just.

2:8:3.90 --> 2:8:3.970

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

No.

2:8:5.250 --> 2:8:8.80

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Can folks see this? No, not no, not yet. OK.

2:8:9.0 --> 2:8:14.260

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Make sure you can see some things. You got a red rim around the. Yeah, I'll stop sharing. I am sharing.

2:8:15.20 --> 2:8:15.660

DiPietro, Laura

We can see it.

2:8:16.360 --> 2:8:18.60

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK. Yeah.

2:8:19.900 --> 2:8:31.930

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So we sent this survey out to many technical service providers and to the agencies list of farmers that we have.

2:8:33.300 --> 2:8:33.940

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

2:8:35.160 --> 2:8:45.230

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And we got rid of 49 responses. So one of the questions we'll just pose now while the board thinks about it is, should we send this out again, try to get more responses, that's how many.

2:8:46.280 --> 2:9:18.140

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So it's the e-mail distribution list was 630 emails I we got, you know, at least 50 bounce backs immediately. So it wasn't delivered to. So maybe just under 600 emails it was sent to and that's direct that's our list the agencies water quality list we have. We also sent it to that list of technical service providers that we discussed earlier on encouraging that those individuals to also share with their lists.

2:9:18.230 --> 2:9:25.200

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So likely duplicative shares, but also potentially reaching out to a broader audience, then what would the agency has?

2:9:27.40 --> 2:9:28.710

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And we received 49 responses.

2:9:29.790 --> 2:9:33.660

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

They ranged. Yeah, one large firm.

2:9:34.440 --> 2:9:35.510

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That responded.

2:9:37.450 --> 2:9:49.360

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Five medium firm operations. You'll see the slide certified 18 OK, 18 certified small pharma operations, 21 small farm operations, three that.

2:9:50.100 --> 2:10:2.310

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm did not operate commercial farms and then one person who said they didn't know what what category they they fell into. The question was for them to self identify so.

2:10:4.820 --> 2:10:9.650

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The OHI also wanted to say that we did receive a response from every.

2:10:11.120 --> 2:10:32.510

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

For every county. So we did meet that standard that was outlined in the legislation that the IBM was to send out a survey and get responses from all counties. We did. We met that with our 49 responses, 8 were certified organic five. We're noncertified however operated as organic 14 non organic. And then to we're split farms.

2:10:35.360 --> 2:10:47.230

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We this question here is question 11, the this isn't we didn't do this sequentially like I'm do the first half and then Morgan's gonna kick in on the second-half. So just you're noting, I just want you to know that.

2:10:45.750 --> 2:10:50.810

Clara Ayer

I I have a quick question. Whenever it's OK for a break for a question.

2:10:50.310 --> 2:10:52.270

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Ohh sure, yeah. No please.

2:10:53.720 --> 2:11:3.230

Clara Ayer

Sorry, this is Clara. I'm just wondering if you have an idea of what percentage of each of those categories.



2:11:4.740 --> 2:11:6.510

Clara Ayer

Is represented like if it's.

2:11:7.210 --> 2:11:14.500

Clara Ayer

If it's a good if it's the same percentage, for instance for small, medium and large farms, or.

2:11:15.550 --> 2:11:16.520

Clara Ayer

If that skewed.

2:11:18.860 --> 2:11:21.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Ohh, based on the response of the type of operation.

2:11:19.140 --> 2:11:22.200

Clara Ayer

You do you understand what I mean? Like, I don't know how many.

2:11:24.160 --> 2:11:40.50

Clara Ayer

Like there's 18 certified small farm operations. What percentage of of the total certified Small farms operations does that represent versus, for instance, the five medium farms or the one large farm? Do you know what I'm asking?

2:11:39.820 --> 2:11:53.470

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yes, in the state I I could get that, but I don't have that now. So we will, we will provide that information to the board, but we didn't, we did not do that calculation, but it's a great question. Thank you.

2:11:54.40 --> 2:12:10.490

Clara Ayer

That's my my gut feeling is that needs to be a good sample and we should make sure that it it feels like, you know, specifically with that few large and medium farms, there's not a very good sampling of corn acres for the state.

2:12:12.650 --> 2:12:17.180

Clara Ayer

And we should make sure that they're evenly represented in the responses.

2:12:19.870 --> 2:12:20.410

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Well, I would.

2:12:19.310 --> 2:12:20.560

Clara Ayer

Percentage wise I mean.

2:12:21.330 --> 2:12:23.570

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I would say to to piggyback on that.

2:12:25.0 --> 2:12:33.460

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That tiny will not hear, but two slides later that that fairly small bar of neuronically treated seed that could be 4000 acres.

2:12:34.170 --> 2:12:37.200

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Right. In terms of multiply it out by the side of the operation.

2:12:38.320 --> 2:12:55.210

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

What is there an acreage slide, right? And we don't have an acreage that question. So we don't have a cross reference to the acres that are represented for those that are using Neo, Nic treated seeds we also, but you'll note, Morgan, we got a comment from Laura and the chat.

2:12:56.860 --> 2:13:0.740

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I also wanna note that we have a number of people that did not.

2:13:3.50 --> 2:13:10.100

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Did not know whether or not they were using treated scenes right, so and that's actually a theme I feel like we just did it a paper.

2:13:11.220 --> 2:13:33.840

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Review of a paper that said the same thing, and we've actually heard this from the industry despite their best attempts in educating farmers as to what this is. 1 particular industry provider of treated seed despite their best attempts at providing information regarding the pesticides that are used or treated or applied or treatments that are applied to the seed, the farmer doesn't know what they're doing.

2:13:34.140 --> 2:13:42.10

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, so Laura sent a message in the chat and and Laura, can you hear us?

2:13:42.640 --> 2:13:45.110

DiPietro, Laura

Yeah, of course. It's just the daring.

2:13:44.120 --> 2:13:45.210

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Once you go ahead and just.

2:13:46.160 --> 2:13:54.170

DiPietro, Laura

It's the numbers of farms that was Claire's question. So and it's, you know, it's approximate it. It fluctuates a little bit, but roughly gives you the number. So you can do the math.

2:13:55.540 --> 2:13:59.890

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, but you wanna go ahead and describe it for folks. I can. Can I?

2:14:0.60 --> 2:14:9.960

DiPietro, Laura

Yeah, it just was the number like. So there's about 35 elfos, about 91. I actually think we sent out 102 MO's. So it's somewhere between 91 and 102.

2:14:10.680 --> 2:14:13.10

DiPietro, Laura

215 certified small farms.

2:14:13.860 --> 2:14:22.130

DiPietro, Laura

So those are 50 cows or more and 200 or 424. The rest of all farms that are small, all dairies here.

2:14:26.630 --> 2:14:27.750

DiPietro, Laura

So Yep.

2:14:26.200 --> 2:14:27.830

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK. Thank you. Thanks.

2:14:27.980 --> 2:14:35.440

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Statistically, there is some kind of percent for survey for it to be considered accurate, and I don't remember what the number was.

2:14:36.570 --> 2:15:0.970

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I I don't have that either. Like what makes? So that would be a significant. Yeah, that would be something like if you get 10% response or something. Yeah, it depends on the variance and the sample. And as a former dairy farm came to me and most troubling thing it seems while we all know the drop off in numbers just in two years so in continuing that thread and if you weren't use from now three people would be a.

2:15:1.790 --> 2:15:3.560

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Balance. Anyway, sorry. Go on.

2:15:7.100 --> 2:15:7.960

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So.

2:15:8.810 --> 2:15:21.700

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So yeah, so a number of farmers like, there were thirteen that responded. They didn't know a number of our responses because they were organic, aren't using treated seeds. So that kind of makes up for the large pink column there.

2:15:24.300 --> 2:15:26.10

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So yeah, we can move on.

2:15:28.280 --> 2:15:52.550

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, if you could purchase treated seed without anyonic pesticide or insecticide, would you would you do so and a lot of folks said yes and then a lot of folks that they didn't know again I think that goes to the knowing what's available. Knowing what you have on your seat knowing it's a potential indication of not knowing.

2:15:53.390 --> 2:15:54.400

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

What they need?

2:15:56.270 --> 2:16:3.680

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But then the other. Yeah, and then again others were organic and so they don't actually purchase Munich.

2:16:8.230 --> 2:16:12.120

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

If you could obtain a custom pesticide seed treatment with this interest you.

2:16:13.520 --> 2:16:15.800

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Again, this is actually a third pretty much.

2:16:16.590 --> 2:16:17.230

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

All around.

2:16:18.930 --> 2:16:21.830

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But the I don't know. You know, that's a question I guess.

2:16:27.170 --> 2:16:53.700

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So now I'm I'm going to move on to plastic agricultural plastic. Specifically, we're going to return to I PM in more pesticide conversations. A little bit later, just broad pesticide conversation. But for agricultural plastic, lots of different types of plastics are you have a big list of what is used in agriculture, but a majority are.

2:16:54.900 --> 2:17:12.610

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Bail rap. Either the tunnel bail wrap like or is the one big like tube, which we didn't highlight specifically here. And then bail netting is another large contributor as well as the feed and pellet bags.

2:17:13.50 --> 2:17:17.300

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, the next largest like everybody else was kind of below that.

2:17:19.640 --> 2:17:28.10

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

10 mark but the one the red column there is the, you know, cover barn structures cover also for barn structures, for greenhouse.

2:17:28.790 --> 2:17:29.280

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Covered.

2:17:31.730 --> 2:17:35.20

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And then most everybody who uses it takes it to the landfill.

2:17:37.940 --> 2:17:42.250

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And it gets the OR disposed of what there or recycled with their solid waste district.

2:17:43.710 --> 2:17:47.290

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That's the orange column there, but I'm not entirely sure how many.

2:17:48.40 --> 2:18:0.330

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Solid waste districts actually have active recycling options. I've heard that the Northwest region has a recycling option. I've also heard one of the parameters for being able to recycle.

2:18:1.750 --> 2:18:2.300

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Like.

2:18:2.440 --> 2:18:21.550

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But Silo cover is that it's clean. Yeah, and that's not it's not. It's doesn't. I don't think that's a real viable option. Right. Yeah. And then also storage and maintaining it clean and dry. So it's like it's not even like, is it clean off the farm as it maintained in a clean condition once it comes off the farm so.

2:18:23.160 --> 2:18:25.370

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So it's a challenge. It's a huge challenge.

2:18:27.530 --> 2:18:57.30

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The next I think you but the most if there was a convenient recycling option like folks would would buy would move in that direction or a cost effective alternative or a bio degradable option. And that is actually in the comments at the end of the survey. Those were the the like. Generally we provided people to provide a free space for commenting on the survey and those were the most common.

2:18:57.120 --> 2:18:58.370

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Comments that we received.

2:18:59.200 --> 2:19:7.510

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Out of the entire survey was focusing on recycling options and biodegradable options for the similar product.

2:19:9.820 --> 2:19:13.270

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Soil tests of a lot of people don't actually do any soil tests.

2:19:15.400 --> 2:19:26.110

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But primarily it's nutrient content or deficiencies and and we we were in the state of Vermont requires an MP soil testing. So a lot of folks do do do that work.

2:19:27.10 --> 2:19:27.470

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

As well.

2:19:29.690 --> 2:19:37.830

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I'll let you you can absorb this. I don't need that. I mean, this is like multiple they could have multiple choices and they could have multiple choice. So that's what this is showing.

2:19:39.690 --> 2:19:46.480

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, that's why it's a little bit hard to explain, explain, but yeah, well, I think this summary out of this is out of 50.

2:19:47.550 --> 2:19:57.270

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The other 50 responses only can only 20% don't do soil tests. Yeah, so I'd say 80% do. So doing test not better. That's better then, yeah.

2:20:2.440 --> 2:20:4.210

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Synthetic for the Lazars.

2:20:5.850 --> 2:20:9.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Mostly folks use the manure that's produced on their farms.

2:20:10.890 --> 2:20:19.220

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Very important. Or that one I produced or on or imported imported. OK. Oh, yes. Imported to the farm. That's correct. Thank you.

2:20:20.540 --> 2:20:28.540

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But the most but we did get in the other comments that folks used a mixture of items. The other comments are on the right hand side or the left hand side there.

2:20:29.350 --> 2:20:31.810

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm 50% synthetic.

2:20:32.970 --> 2:20:39.150

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And then manure produced on the farm, 100% natural imported. Don't use any whatsoever.

2:20:40.440 --> 2:20:43.450

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And then some, just use the compost that they produce on the farm.

2:20:50.310 --> 2:21:6.220

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

This. I'm just gonna. We had a a glitch in our survey here that folks weren't able to choose multiple options, but in many instances the technical service providers of agricultural service providers, farmers work with many.

2:21:7.10 --> 2:21:23.920

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Agricultural service providers, they don't work with any one particular every cultural service provider. So that kind of bears out in the other column as well as that was another common comment that we received at the end in the free space is that people were like I couldn't play multiple. So they shared that information with us.

2:21:27.930 --> 2:21:36.430

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK. So then, uh, we'd ask questions about did you practice I PM principles when making guesses, I related decisions.

2:21:37.720 --> 2:21:41.110

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So this was the concern that we got, so.

2:21:42.440 --> 2:21:45.470

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yes, no and not sure so.

2:21:50.230 --> 2:21:53.210

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Of those then, we asked what our TM strategies.

2:21:54.300 --> 2:21:59.930

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Do you use and so this one they could.

2:22:2.210 --> 2:22:5.220

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Choose multiple items and.

2:22:7.490 --> 2:22:13.300

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The crop rotation is is high up there, so the others they.

2:22:13.970 --> 2:22:15.650

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

People were saying these specific class.

2:22:16.520 --> 2:22:21.360

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Or the hand pack and or the unit intensive rotational grazing.

2:22:31.410 --> 2:22:37.210

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uh, So what would encourage you to practice IPM so?

2:22:39.300 --> 2:22:42.270

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Highest was other so I listed the others.

2:22:42.350 --> 2:22:47.360

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uh on the on the side. So a lot of.

2:22:48.630 --> 2:22:58.210

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The answers and the other is I don't use them. I don't use pesticides. I don't use pesticides where organic, I don't use them. So that made us.

2:22:59.140 --> 2:23:0.70

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Go back.



2:23:1.190 --> 2:23:2.220

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And so.

2:23:6.500 --> 2:23:7.100

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Ohh.

2:23:7.840 --> 2:23:16.950

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah. So then so then this is what types of test sites do you use. So we're getting a lot of, I don't use, right. That's the red. I don't use pesticides, so that's 27.

2:23:18.140 --> 2:23:19.140

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And.

2:23:20.860 --> 2:23:43.790

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Or, uh suitable for organic, right? So if we're focusing on conventional pesticides. So I went back and did the ICM questions for just those 16 that answered for conventional pesticides or both or organic and conventional aside. So that orange and green groups.

2:23:44.670 --> 2:24:4.340

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That's why I went back and just did the answers to #7 about IPM for the people who used comment, who answered. They used to conventional pesticides. So this is that pie chart redone for seven for those sixteen group of 16 respondents. So nine of them.

2:24:5.500 --> 2:24:7.850

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I said yes, they use IPM.

2:24:8.550 --> 2:24:12.40

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

No, for four and not sure for three.

2:24:13.400 --> 2:24:27.20

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So then what strategies do you use? Again, this is just those 16, so it doesn't have a full list because we didn't pick all of them. Crop rotation was the highest picked the most times.

2:24:27.340 --> 2:24:34.130

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm. Kind of follow, you know, point resistant properties and they're targeted test site selection.

2:24:34.910 --> 2:24:49.470

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Cultural practices. So it's kind of evened out. Nothing really was as big as crap quotation. Morgan did the for the 27 or the number they said they don't use this site to do. Look at their IPM answer. So I didn't.

2:24:51.870 --> 2:24:54.260

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But we do know.

2:24:55.520 --> 2:24:56.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That they're not.

2:24:57.930 --> 2:25:13.640

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So I guess I yeah, I filtered out the conventional, but I didn't show you the results for the others because there's mainly there, the others here of what would encourage you is 17 people saying I'm not going to use IPM because I don't use pesticides but.

2:25:17.410 --> 2:25:22.410

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, but I can. I didn't, right? I didn't. Right. I only showed one side, right?

2:25:27.20 --> 2:25:33.830

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So this is the answer to what would encourage you to practice for those 16 respondents money, it's the highest.

2:25:38.10 --> 2:25:38.790

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

By far.

2:25:38.870 --> 2:25:52.140

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm. So yeah, so we can look at it going back and I can filter those ICM questions for the opposite of the conventional pesticide answers. We just.

2:25:53.230 --> 2:26:3.950

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah. How are mind was working that day was to call out. Well, we wanted to know those answers for people who were kind of using pesticides. So that's how we did it that way. But we can definitely look at the other way.

2:26:4.660 --> 2:26:9.150

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

It seems to me like, given the answers to the plastic.

2:26:9.810 --> 2:26:26.320

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The manure and the pesticides we primarily caught half this group is organic dairy farmers. I was going

to say the same thing and maybe that's one slide, but yeah, yeah, yeah, it looked like this was a. So whoever, whatever list serve you use to get to your organic dairy farmers. Good job.

2:26:27.390 --> 2:26:47.760

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I we we spread this survey far and wide. I just looked like I didn't send this to my somehow this foot past me sending the growers ohh shows in that data. That's all on my shoulders. But I mean, so I mean the OK, so let's OK. So first of all, let's organize the discussion a little bit.

2:26:48.820 --> 2:26:51.830

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Does anybody have any questions about the survey results?

2:26:52.20 --> 2:26:53.860

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

It's specifically.

2:26:55.420 --> 2:26:59.970

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And maybe go ahead and put the screen back up, Morgan so we can see people.

2:27:11.980 --> 2:27:16.430

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK. Anybody have any questions about any any of the folks from the?

2:27:17.980 --> 2:27:19.410

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The ether out there.

2:27:20.430 --> 2:27:22.610

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The virtual world. Any questions?

2:27:26.170 --> 2:27:32.870

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK. So I guess the next the you know opportunity for discussion about the results.

2:27:33.700 --> 2:27:35.40

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And next steps.

2:27:36.770 --> 2:27:39.720

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So what are folks like? I think I think comments.

2:27:42.180 --> 2:27:43.570

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We need to send it out again.

2:27:45.10 --> 2:27:47.40

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I think to get more response.

2:27:49.600 --> 2:27:59.590

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, what if I was thinking about that I I agree with clear on that. Yep, I would agree with you. There is a statement as well. Make sure it's an accurate sample.

2:28:1.50 --> 2:28:3.630

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Any any ideas about how to get more responses?

2:28:4.910 --> 2:28:6.220

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Can we give away a hat?

2:28:7.640 --> 2:28:11.380

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I mean, no, I mean, I just honestly as a farmer who receives like.

2:28:12.100 --> 2:28:19.690

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Emails all the time surveys, you know, we all we order. Fill them up. I mean, we're filling out surveys all the time, right time, you know.

2:28:20.530 --> 2:28:32.70

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, there's no incentive that we did here, actually a verbal comment to that effect. Ohh in a that in incentivizing the completion of the survey wouldn't assist in folks taking the survey.

2:28:33.940 --> 2:28:36.210

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I don't know what we could do though, yeah.

2:28:36.290 --> 2:28:38.770

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And we have a budget for that.

2:28:44.880 --> 2:28:52.470

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Well, I think we couldn't follow up and see what listers did go to. That would be one thing because you sent it to your the agency captures.

2:28:53.250 --> 2:29:2.310

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

A certain certain class of farmers based upon nutrient management really like like that's a big a big piece of your list, and it seems like.

2:29:4.170 --> 2:29:21.860

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And dairy farmers primarily, I don't know if this went to the veteran Barry List serve. I could do a search of the list serve and see if it went out, but looking at those results, but that doesn't mean you send it to me too, but I I didn't get it out right because you have those. Yeah. Yeah, yeah, yeah.

2:29:23.810 --> 2:29:29.220

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So maybe the thing to do is is send it out again, but target it at specific.

2:29:29.910 --> 2:29:45.500

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The segments since we got it seems like we got the organic dairy farmers, let's shoot it. Let's try to specifically target other groups, maybe with some follow up you know, so like you send it to Terry, they carry, did you send it out you know send it to burn?

2:29:46.490 --> 2:29:47.940

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah, you know, the pastor me, right?

2:29:48.630 --> 2:29:48.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Right.

2:29:49.690 --> 2:29:52.930

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I know. So I think no, I don't think I missed you.

2:29:54.410 --> 2:30:1.650

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But anyway, So what other groups could we specifically target to try to get a fuller? I mean, by no point sending it the same group again.

2:30:4.190 --> 2:30:8.720

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

But if there are other groups we could target specifically, what about the watershed groups?

2:30:10.140 --> 2:30:13.480

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Champlain Valley Farmers College. I don't have the.

2:30:32.100 --> 2:30:32.530

DiPietro, Laura

Yeah.

2:30:15.180 --> 2:30:34.360

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I can go to. Yeah. I mean, you're gonna see me actually care. Remember? I handed out it may have. I think it was that. I think I know magine that one of them. I have to go back in our meeting minutes to

show the list of everything. But I think we did have those on there because I remember Laura. They send it out on our behalf or not.

2:30:35.490 --> 2:30:41.950

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That's what we asked them to do. OK, let me prepare the draft e-mail that they would just copy and paste to send out.

2:30:42.590 --> 2:30:43.220

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

2:30:44.940 --> 2:30:54.960

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, let me let me just you know again to organize the discussion is the board feel like it's important to send it out again which is your some folks think.

2:30:58.420 --> 2:30:58.770

Clara Ayer

Yeah.

2:31:0.450 --> 2:31:0.850

Cutler, Clarice

Yes.

2:30:57.830 --> 2:31:8.510

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I mean, yeah, OK, So what we will do is we'll go back and strategize about a way to increase participation in the survey.

2:31:9.360 --> 2:31:10.70

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And.

2:31:14.450 --> 2:31:15.80

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Try it again.

2:31:16.0 --> 2:31:25.930

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And report back on the results and if anybody has any specific groups they wanted to send it, if anybody has a specific group, do you think we should send it to please communicate with Morgan?

2:31:26.740 --> 2:31:38.210

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I mean, and we'll send it out multiple times. I mean, you know, we don't have to do it up particular day or anything. We've got surveys here, we know how to do it. We just need to start increasing participation as the goal.

2:31:39.430 --> 2:32:5.0

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I mean, I think we want to cover some acres and so targeting figuring out which dairy groups it was sent to. I'm not sure what they try to get participation, exactly. Exactly. Yes, for participation, because if we went out to the tea bags regulated community and that's that's a lot of the yankers. But we didn't get response right and you just didn't get by and people didn't want to time. So how do you get them to do that?

2:32:6.380 --> 2:32:7.480

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So fullframe storm.

2:32:12.840 --> 2:32:19.480

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

You might get less buy in and it goes out and like early May. Yeah. Yeah, yeah. I mean.

2:32:21.450 --> 2:32:23.780

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So sooner rather than later is what you're saying, OK?

2:32:24.430 --> 2:32:27.620

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Gotcha. OK. Well, thank you very much for that.

2:32:30.560 --> 2:32:35.650

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Work plan status next meeting agenda. Yeah, OK.

2:32:45.610 --> 2:32:46.280

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

No.

2:32:48.830 --> 2:32:52.100

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I we seen this right so.

2:32:53.980 --> 2:32:55.930

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

What we had talked about.

2:32:57.350 --> 2:32:59.930

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

The little so next meeting is is April 24th.

2:33:0.10 --> 2:33:5.80

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, we should have placeholders on your calendars for for all these meetings.

2:33:5.160 --> 2:33:7.700

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm we.

2:33:9.480 --> 2:33:15.360

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We're going to so we can add. We were going to give Sarah another thought to.

2:33:15.520 --> 2:33:16.10

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

2:33:17.440 --> 2:33:28.110

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

This is an environment, so this can be. Yeah, yeah. Yeah. Is there too. So that's for us to continue our lit reviews. So there's more. So we can talk about the.

2:33:29.680 --> 2:33:30.600

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

EPA.

2:33:31.450 --> 2:33:32.270

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Ecosmart.

2:33:33.970 --> 2:33:34.710

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

2:33:35.710 --> 2:34:6.270

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So the other thing that we talked about for April is the seed data Note port, because that will be wrapped up by then another that's out for the board to discuss. We have a request from and I think Fred, you're on the line from the Vermont Beekeepers Association. So they are willing to present to the board of the impacts of Munich two season pollinator health.

2:34:7.290 --> 2:34:16.70

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

It's the board would like to hear that from Fred in the Vermont peacekeepers and Socation we can schedule that.

2:34:17.920 --> 2:34:18.540

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Board members.

2:34:23.640 --> 2:34:26.270

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I see heads, but funny verbal. I'd be interested in.



2:34:26.850 --> 2:34:30.620

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I I won't be here, so it'll be a quiet meeting.

2:34:30.760 --> 2:34:31.200

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Because.

2:34:31.440 --> 2:34:37.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Then we can sort of, no. Yeah, yes, but OK, alright. So we'll schedule that, OK.

2:34:43.250 --> 2:34:43.840

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

2:34:49.320 --> 2:34:50.150

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So.

2:34:51.890 --> 2:34:58.800

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Other things from here, so going down so topic A was.

2:35:0.370 --> 2:35:4.80

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Can addressing economic thresholds. So Heather talked about that.

2:35:4.910 --> 2:35:9.940

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

A little bit this morning and also identified those two primary tests.

2:35:11.90 --> 2:35:12.510

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

To.

2:35:13.600 --> 2:35:20.110

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We want more. Do we need to talk of further strategy about that topic?

2:35:31.710 --> 2:35:32.360

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yes.

2:35:33.250 --> 2:35:40.380

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I would say we need to, I don't know, the next meeting is the one to do. Yeah, the sign. But I can work forward. Yeah.

2:35:41.520 --> 2:35:49.330

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I would suggest as far as that one, I think the next step on that one is the file is to talk the entomologist in areas where they have like Ontario where they have.

2:35:49.920 --> 2:35:50.970

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Specials developed.

2:35:52.460 --> 2:35:53.90

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Or yeah.

2:35:53.690 --> 2:35:55.40

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Or John took her.

2:36:21.870 --> 2:36:24.480

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We talked a little bit about availability.

2:36:25.880 --> 2:36:30.190

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We will get more of the feed report data next month.

2:36:32.290 --> 2:36:33.110

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Any.

2:36:33.760 --> 2:36:39.200

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Further ideas, I know. I mean there might be seed companies that are.

2:36:39.500 --> 2:36:47.50

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I'm willing to talk to us if the board so chooses it. Kind of.

2:36:47.700 --> 2:36:50.570

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, we heard a conversation.

2:36:50.820 --> 2:36:51.550

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

2:36:52.510 --> 2:36:54.300

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

John is heroin this week.

2:36:56.330 --> 2:37:12.120

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And pioneer, and about how kind of like their demand planning and and all of that flexibility that needed that goes with the availability if that's something that the board would also like to hear. I learned a lot definitely this week about it, but.

2:37:12.880 --> 2:37:23.460

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

It was definitely plenty of opportunity to bring in the logistics and back and forth, you know, and we can pick whoever we want to do it. But I think that does play a role in it.

2:37:24.880 --> 2:37:26.340

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, looks like that's all.

2:37:27.480 --> 2:37:28.910

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Something the board's interested in.

2:37:32.150 --> 2:37:34.100

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Now we can figure out timing on that.

2:37:53.80 --> 2:37:59.200

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Right. So we had had tables topic C for economic impact from crop loss.

2:37:59.280 --> 2:38:5.610

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm and till after May we still OK with that? So we're table that one.

2:38:6.130 --> 2:38:15.400

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, this is the human health and environment, so we're chipping away at this, so keep sending us things, if you like.

2:38:18.390 --> 2:38:22.70

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uh surveillance and monitoring techniques. So Heather talked about it today.

2:38:23.600 --> 2:38:28.340

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We could, if we bring in enough an Ontario person, we could ask them to also talk about this.

2:38:31.10 --> 2:38:41.380

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Or other entomologists, maybe from Pennsylvania. Particular response? Yeah. There are neighboring states dealing with the same issue. So we need to reach out to them and see what their experience is.

2:38:49.420 --> 2:38:49.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

And.

2:38:51.440 --> 2:38:55.340

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Seems like the two states we need to focus on, the New York and Pennsylvania.

2:38:56.600 --> 2:38:57.330

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

That's weird though.

2:38:58.90 --> 2:38:59.330

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Corn acreages and.

2:39:0.0 --> 2:39:1.310

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Some of the same concerns.

2:39:1.990 --> 2:39:6.490

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Well, and where you've got a robust slate of entomologist as well, right?

2:39:13.290 --> 2:39:19.380

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So we didn't talk about ways to reduce that outrage from conservation tillage practices. Others talked about this today.

2:39:20.830 --> 2:39:24.770

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Uh, we can tap the same entomologist for the same question, right?

2:39:25.480 --> 2:39:26.0

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

2:39:28.220 --> 2:39:29.190

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm.

2:39:29.980 --> 2:39:36.630

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

This last one I think is still a we saw the action item is to have general counsel.

2:39:37.910 --> 2:39:50.670

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Consulted on the interpretation of this topic, which is the it's worded as established criteria for a system of approval of new Nic treated article seems OK. We haven't done anything with no. OK well, yeah.

2:39:53.880 --> 2:39:55.10

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

So yeah.

2:39:57.190 --> 2:40:0.140

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Yeah. So looks like next week I I think we can.

2:40:1.720 --> 2:40:6.510

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

I think we have plenty for. I mean for next meeting. Ohh yeah, we got plenty.

2:40:6.630 --> 2:40:13.170

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, so I'll keep trying to plan forward for those etymologies and.

2:40:14.270 --> 2:40:15.740

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Neighboring people.

2:40:16.530 --> 2:40:26.100

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Is there anything from the board members? Is there anything we're not planning to include on the agenda you think we ought to conclude on this upcoming agenda?

2:40:29.270 --> 2:40:33.190

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Thank you. Something you know, after the meeting, you know? Yeah. Just send it more.

2:40:33.280 --> 2:40:35.210

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We will try to address it.

2:40:41.90 --> 2:40:41.670

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Alright.

2:40:41.780 --> 2:40:43.710

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Umm, I think.

2:40:46.10 --> 2:40:54.900

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We have on the agenda review of relevant legislative build, so I think we're still in the same. Yeah, yeah, there are the only.

2:40:55.540 --> 2:41:11.530

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

There are two bills I'm aware of that both pesticides or did a House Bill 67 pesticides were taken out of

that bill, so they're no longer include pesticides. And then there's a bill that's been introduced regarding the use of Corporal Foss and glyphosate anthracene.

2:41:12.840 --> 2:41:24.390

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

It's been introduced, but hasn't gone anywhere. It's been introduced multiple years before, it never got over the house 431. So as far as we know, unless somebody has aware of another bill says the board needs to be aware of.

2:41:27.780 --> 2:41:28.590

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Nothing right now.

2:41:32.610 --> 2:41:33.990

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, public comments.

2:41:35.110 --> 2:41:37.880

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Any members of the public who wish to make comment to the board.

2:41:38.890 --> 2:41:40.250

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Write any information to the board.

2:41:49.620 --> 2:41:53.50

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

OK, well, I guess pleasure of the board to adjourn.

2:41:54.470 --> 2:41:59.0

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

Sounds good to me. OK, thank you all very much. Really appreciate it.

2:42:1.860 --> 2:42:4.580

66cfaa35-99bb-4d24-8c20-d49c2d0cf6f0

We're getting some stuff done. I think so, yeah.