

**VERMONT AGENCY OF AGRICULTURE, FOOD AND MARKETS (AAFM)
AGRICULTURAL INNOVATION BOARD (AIB)**

MEETING MINUTES

DATE: October 16, 2023

LOCATION: Vermont Agency of Agriculture, Food and Markets 94 Harvest Lane, Williston, VT 05495 –
Conference Room 210 / Virtual Microsoft Teams Meeting

Member	Present	Absent
St. Pierre, Amanda	x	
Beckford, Roy	x	
Hazelrigg, Ann	x	
Chamberlin, Jonathan	x	
Cutler, Clarice		x
Ransom, Earl		x
Rebozo, Ryan	x	
Schubart, Steven		x
Owen, Sarah	x	
Harper, Wendy Sue	x	
DiPietro, Laura	x	
Dwinell, Steve	x	
Morgan Griffith	x	
Guests in Attendance		
Jill Goss Stephanie Smith Matt Wood Abbi Pajak (ANR/DEC) Brooke Decker Steve Cash Jonathan Wolff (Biotechnology Innovation Organization / CropLife America) Gene Harrington (Biotechnology Innovation Organization) Margaret Laggis Kimberly Obrien (Bayer Crop Science) Doug Johnstone Lisa Fantelli		

Meeting called to order: 1:00 PM EST

Meeting adjourned: 2:58 PM EST

Next meeting: Monday November 13, 2023, 1-4PM

Agenda:

1:00 PM – Welcome & introductions

1:05 PM – Agenda, previous meeting minutes & action item review

1:15 PM – AIB review of information heard relevant to required topics

2:15 PM – AIB member discussion

Neonicotinoid treated seed recommended BMP prioritization & details

BMP recommendation status & next steps

3:45 PM – Public Comments

4:00 PM – Adjourn

New Action Items

Action	Responsible Party	Complete? (date)
What is the price difference for neonicotinoid vs diamide treated seed?	AAFAM	
Is there historical pest incident data we can access prior to introduction of NTS?	AAFAM	
AAFAM will continue to gather more information about the impact on crop insurance if NTS are not in use	AAFAM	

Ongoing Action Items

Action	Responsible Party	Complete? (date)
AIB members let Morgan know if eligible for per diem reimbursement to receive necessary paperwork	All eligible AIB members	
Compare crop acreage numbers to seed tonnage reports	AAFAM	
Learn more about municipal solid waste facilities' ability to accept unwanted treated/untreated seed and whether pesticide disposal funds should be used to pay for disposal with HHW contractors	Stephanie Smith	10/16/23 minutes
Literature review for research relevant to halo effect of neonic treated seeds and/or comparison of neonic treated seeds to diamide treated seeds	Jill Goss Morgan Griffith	
Provide AIB with summary of observations from evaluation of 4 different seed lubricants	Heather Darby / Jeff Sanders	
Send information/research and articles shared by Dillon with AIB members about Bayer's efforts to reduce dust	Morgan Griffith	9/26/23
Send paper that was published this year about corn seed maggot impacts	Heather Darby	10/15/23
Review/recap AIB learnings to date (highlight of what we know relevant to the key topics listed in legislative charge)	Morgan Griffith	10/16/23

Welcome & Introductions, agenda, previous meeting minutes & action item review

- 9/25/2023 meeting minutes accepted without edits

- No additions/modifications to agenda

AIB review of information heard relevant to required topics & AIB Member Discussion

- Today's objective is for AIB members to share their opinions about potential recommended BMPs that comes to mind as we are going over the key takeaways from the recap of what we have learned relevant to the required topics (A) – (G) (6 V.S.A. §1105a).
- The AIB Key Takeaways to date document was shared
- (A) Establishment of threshold levels of pest pressure required prior to use of neonicotinoid treated article seeds & (E) Surveillance and monitoring techniques for in-field pest pressure
 - Is there anything that's missing from the recap of these topics?
 - Members did not have any more key takeaways to add to this list
 - Steve Dwinell: there is not an established recommended scouting process or economic threshold for growers to use in their decision making process to use neonicotinoid treated seeds
 - Ann: Even if you do scout and monitor it may not influence what happens in the next season.
 - Jonathan Chamberlin: that is what I see in the field. Prior to neonicotinoid treated seeds (NTS), it was hit or miss where you had replant because of insects. Was very unpredictable when you would be at risk to replant.
 - Replant is not a major issue anymore when utilizing NTS technology
 - Wendy Sue Harper: might add the point that IPM is not supposed to be used prophylactically, but IPM doesn't seem to work for this pest situation
 - Laura DiPietro: since pests like heavily manured/cover cropped/high organic matter fields, this adds a challenge in this space because these are conservation practices that are recommended in VT.
 - Is the pest pressure alone is as great this far north compared to more southern regions? Is there historical pest incident data we can access prior to introduction of NTS?
 - **AAFM can look into these questions
 - Ryan Rebozo: wireworm scouting can happen in fall, are growers using this scouting results to influence any decisions?
 - Not sure scouting for wireworm is a common current practice among growers
 - Amanda St. Pierre: everything is weather dependent, trying to fit everything into a narrow window of time at both the beginning and end of season. supports the comment that the pest pressures are very unpredictable. Historical data might not be best indicator because our weather patterns are so different now
 - Ann: not practical for IPM/monitoring BMP, but can come up with guidance or recommendation of practices that mitigate risk to pests through cultural practices (i.e.
 - Sarah Owen: BMP could be scouting itself is not enough to determine whether or not to use NTS

- All information relevant to these topics will be captured in a report as well.
- (B) Availability of nontreated article seeds that are not neonicotinoid treated article seeds
 - Is there anything that's missing from the recap of these topics?
 - Members did not have any additional takeaways to add
 - Ontario regulations made it difficult to use NTS and therefore most growers switched to diamide treated seeds
 - Laura: thinking of questions from legislature that they may ask
 - Farmers need to order in advance, but then they change their maturity dates (need flexibility) last minute. This is contradictory so we need to be prepared to address this to legislature
 - Seed that VT growers can't utilize goes to growers that can, but if the treatments are undesirable (i.e. without neonicotinoid treatments and are not the same as the rest of the country) then that seed can't move across the country as it does now.
 - Can't get seed from Canada, so often comes from Dakotas. What was too long for them comes to VT, then what is too long for us goes to NY or PA.
 - This flexibility in the market closer to the growing season allows growers to adjust to the weather and unpredictable events despite having to order their seeds much earlier. However, having a difference in treatment on seeds in VT would make those seeds less desirable
 - We need to understand the magnitude of increase in insurance premiums without NTS
 - Insurance companies may not know right now, since price is influenced by number of claims made. Premiums are dependent on history of the field and average yield of the field and may be set on a federal level.
 - **AAFM will continue to gather more information about the impact on crop insurance if NTS are not in use
 - Sarah: nothing to add, recap is comprehensive
 - Amanda: this list is complete. Agree about the complexity around the insurance, there is not a set number that would capture the potential insurance premium increase
 - The insurance company is going to support farmers in any loss of yield so the more claims you have that hurts your rating and cause premium to increase.
 - Is a hard number to come up with, but is an important consideration in this conversation
 - Ryan: wonder how diamide treated seeds may be looked at by insurance companies as compared to looking at completely untreated seeds
 - Roy: recap is comprehensive. Asking what studies informed the NY bill?
 - The NY Cornell comprehensive Neonicotinoid Report by Scott McArt, who was a speaker to AIB previously.
 - Wendy Sue: was looking at diamide and found [chart from EPA](#) that compares toxicity to neonicotinoid and other diamides
 - This EPA document is saved on AIB Sharepoint/Teams
 - VT growers have not used in-furrow treatment equipment since treated seeds have been introduced.

- (C) Economic impact from crop loss as compared to crop yield when neonicotinoid treated article seeds are used
 - Is there anything that's missing from the recap of these topics?
 - Laura: was there a presentation that said yield recovery loss would not be greater than 3% if you did not have NTS?
 - AAFM found this fact stated in Christine Hazel's (Corteva) presentation: Corteva has 10 years of data from research trials that show neonic insecticide seed treatments protect soybean yield by >3%
 - Jonathan: what is the actual yield impact? The treatments are not a bump in yield it is more "a something or nothing" situation. You either have to replant or you don't, it is a catastrophic event. Elson Shields made this point during his presentation to AIB.
 - AAFM has added this point in the key takeaways
 - Insurance companies in VT has condition that anything planted after a certain date (June 10 in VT) you lose a percentage of the coverage despite the premium
 - Ann: I was expecting bigger yield results when using NTS, but is a good point about having to replant
 - Wendy Sue: nothing to add
 - Roy: supports Jonathan's assessment
 - Ryan: also supports this assessment and it supports limited utility in early scouting because of lack of relationship between insects and what you see in the field
 - Amanda: supports Jonathan's comments. 1% difference in yield is significant whether it's on a small farm or a big farm because when not meeting the expected yields you either have to spend to replant, or if you are beyond the time when replanting is an option, you have to go out and purchase feed to cover that loss.
 - Question for Amanda: in your experience, have you had substantial loss due to pests?
 - Not in last 5 years, only fields impacted by weather and subsequent disease
 - Thinks that UVM extension and seed technology has helped them not have pest problems
 - Laura: is there a historic trend that people look to see what their loss has been and assume they need to plant that much more to cover any anticipated loss?
 - Amanda: don't base our decisions on this. We base our decisions on seed and maturity based on last year and maybe last 3 years. But is just what is available to us through the seed dealers. Just trying to fit in planting and when rains during that window they are scrambling for available corn. Want to make clear that Amanda's conventional dairy farm
 - What is average loss that farms are seeing?
 - Heather Darby shared [Crop Protection Network](#) with data of yield losses by pest for all of US and Ontario
 - Jonathan: it's hard to quantify what ***listen Product that is grown is feedstock for producers. Growers plant what they think they need. An extra acre can be an extra \$600-\$700 depending on the operation. So a 3-5% increase can be significant numbers. Nobody plants extra unless they have to catch up from the year before.
- (D) Relative toxicities of different neonicotinoid treated article seeds and the effects of neonicotinoid treated article seeds on human health and the environment
 - Is there anything that's missing from the recap of these topics?
 - We received the most information about this topic

- The following topics were added to the key takeaway document:
 - Information on dust-reducing seed lubricants
 - Impact to beneficial invertebrates if vacuum planters direct the exhaust down to the soil.
 - Dust has protein so can be attractive to bees
 - Neonicotinoids can have sublethal impacts on honeybee physiology, reproduction and behavior
 - UVM study objective and results to date
 - Why is planter modification not practical?
 - UVM tried and could not procure any available kits or information from planter manufacturers about guidance for modifying the planters to reduce dust moving off target
 - The wording in the key takeaway document was changed to “not a current option for VT growers at this time”
 - If we put this in our BMPs could we drive this to be a more feasible option
 - Roy: will solid waste facilities accept unplanted treated seed?
 - AAFM looked into this question and learned that if the treated seed is unopened it can most likely be returned to seed dealer
 - If opened, the options are to plant the seed or dispose of it according to the seed label guidance (i.e. bury smaller volumes away from water, or according to solid waste rule).
 - In VT treated seeds would be accepted at landfill because of federal exemption from classification as a pesticide.
 - Laura: may be valuable to include that dust reducing fluency agent was not difficult to get in VT. halo effects are unknown of whether historical use of NTS are influencing the results of studies.
 - Ryan: similar thoughts already said about halo effect and persistence in soil
 - Jonathan: nothing to add
 - Ann: nothing to add
 - Sarah: nothing to add
 - Amanda: nothing to add
- (F) Ways to reduce pest harborage from conservation tillage practices
 - Is there anything that’s missing from the recap of these topics?
 - Conservation tillage definition has been added to the takeaway document
 - Leaves >25% residue on the surface = conservation tillage
 - There is a relationship between type of tillage practice and resulting pest pressures
 - Laura: just need to add the complexity of this challenge
 - VT don’t do no-till because we have manure incorporation and cover crop incorporation guidance and recommendations
 - Herbicide concerns for terminating cover crops vs incorporating
 - Incorporating manure and cover crops are beneficial for other areas of agriculture, especially in VT
 - Steve: What we really need to talk about is the complexity of the relationship between tillage practices and cultural practices and pest pressures
 - Include the complexity of later planting to avoid pest, and the consequential impacts of a delayed planting

- Amanda: one practice gives you one benefit, but then you lose it on the other side
 - Have to be careful, because it could easily confuse people and be taken out of context. Because cover cropping and manure incorporation has been encouraged and recommended in the past, so it may be confusing to hear contradictory information.
- Roy: are we assuming reader should understand what conservation tillage understands
 - We need to explain and/or reference what is meant by conservation tillage and the complexity of this topic in the report to legislature.
- Wendy Sue: agrees about complexity and that we need to explain it
- Ryan: agrees with Wendy Sue.
- Process of reading and reviewing report has to happen outside of the AIB meetings by members. AIB members should be prepared for this back and forth discussion and report edits outside of meeting times.
- (G) Criteria for a system of approval of neonicotinoid treated article seeds
 - Is there anything that's missing from the recap of these topics?
 - Members did not have any additional takeaways to add
 - Jonathan: nothing to add
 - Wendy Sue: not sure if legislature will buy our interpretation of this topic. I have written down some thoughts on system criteria:
 - Recommendations should based in science
 - Recognizes the complexity of the growing system
 - Recommendations should integrates cultural, physical with chemical use
 - Recommendations should include support for farmers in making needed changes; both financial (ex: equipment modification) and educational through Extension
 - Recommendations should not be too burdensome for farmers
 - Recommendations should protect human's and the environment, including pollinators
 - Recommendations should not be in conflict with Federal regulations
 - Recommendations should have an evaluation system built into them in 3-5 years to manage unintended consequences
 - Ann: do we know how much more expensive diamide treated seed is? Is it double?
 - **AAFM can look into the price difference for neonicotinoid vs diamide treated seed
 - Right now seed that is purchased in VT (i.e. Lumavia) has a lower neonicotinoid rate but is supplemented with a diamide active ingredient
 - Roy: we are largely saying that the jury is still out and we are observing the jury in the Canadian context and NY context. And it may be too early to draw conclusions on diamide
 - In NY the jury is still out until 2026 when the study results are provided to the Governor
 - Ryan: nothing to add
 - Amanda: agree with Roy, but nothing additional
 - Laura: overall concern being a regulator, have to be aware of how recommendations are "regulatable". Want to make sure that AIB recommendations are able to be regulated
 - Want to understand what EPA is going to do going forward. What are the challenges of VT being ahead of the EPA and then putting farmers in a hard place with regulations contradictory to EPA.

- Make sure we integrate in this section anything EPA is doing relevant to seed label requirements in the future
- Seen that Canada has backed off scouting requirements, but unsure if low pest levels are still being influenced by persistence in the soil of neonicotinoids (19 year half life in soil?)
 - Margaret Laggis provided the following answer to Laura’s soil residual levels of neonicotinoids: you might be able to detect them at the ppm or ppb level, but their biologically active life is less than a year unless in a permafrost or desert situation
- With Canada moving away from neonics and using different technology that potentially poses a higher risk to aquatic invertebrates, it would be good to know what research they are doing to understand what those impacts are when alternative technology is used on a broad scale
- We are starting the process of brainstorming possible BMPs.
- We will provide a framework of possible BMPs for the AIB to respond to at November meeting
- The statute states that the Secretary of Agriculture, Food & Markets, upon recommendation of the Agricultural Innovation Board, may adopt by rule best management practices (BMPs), standards, procedures, and requirements relating to the sale, use, storage, or disposal of treated articles the use of which the AIB has determined will have a hazardous or long-term deleterious effect on the environment, presents a likely risk to human health, or is dangerous.
 - The threshold for making a recommendation is that the AIB has to make a determination that these treated seeds are hazardous, have a long-term deleterious effect, risk to human health or are dangerous.
 - Not going to decide this right now, but this will be the first thing we discuss at the next meeting.
 - We are not voting, we are gathering members’ opinions and will present that to the Secretary of Agriculture
- AAFM staff will pull all of this together into a framework of possible BMPs that will be provided for AIB member consideration in preparation for November meeting

AIB Member Discussion – Neonicotinoid treated seed recommended BMP prioritization & details, BMP recommendation status & next steps

- Work plan status & next steps
 - Dec meeting moved to Dec 11 1-4pm in order to have more time to write report
 - We have annual report due in December 2023
 - We must have recommendation to Anson by December 2023 to fulfill legislative charge.

Public Comments

- None

** - indicates action item