

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

MEETING MINUTES

DATE: May 23, 2022

LOCATION: 116 State St. Montpelier, VT / Virtual Microsoft Teams Meeting

Member	Present	Absent
Ayer, Clara	x	
Beckford, Roy		x
Bradshaw, Terry	x	
Chamberlin, Jonathan	x	
Cutler, Clarice	x	
Gandhi, Kanika	x	
Giguere, Cary	x	
Harper, Wendy Sue	x	
Ransom, Earl	x	
Rebozo, Ryan	x	
Schubart, Steven	x	
Vose, Sarah	x	
Guests in Attendance		
Morgan Griffith Paul Hoekstra Keri Carstens Brooke Decker Derrick Deadwyler Christine Hazel Maddie Kempner Judy Vellairs Sylvia Knight Mike Bald		

Meeting called to order: 1:05 PM EST

Meeting adjourned: 4:05 PM EST

Announcements:

None

Business:

AGENDA:

1 – 1:30: Paul Hoekstra (Ontario Specialist)

1:30 – 1:45pm: Terry Bradshaw (background on Pollinator Protection Cmte Work)

1:45 – 2pm: AAFM Update on Neonics/2022 Legislation

2 – 2:30pm: Keri Carstens and Colleagues (Seed Treatment Experts, Corteva)

2:30 – 2:45pm: Update from VT Beekeepers Association [did not attend]

2:45 – 3:00pm: Leif Richardson (research on neonics/pollinators in VT) [did not attend]

3:00 – 4:00pm: Board member discussion, follow up questions, and policy ideas for the legislature report

New Action Items

Action	Responsible Party	Complete? (date)
Terry send draft pollinator protection committee BMPs to AIB	Terry	
AIB members should read pollinator protection committee report and presentations from today	All	
Jon find study out of Ontario/Health Canada	Jon	
Kanika try and find right people to ask our questions	Kanika	
Cary help get CA contact	Cary	
Kanika send summary of what she needs help with	Kanika	
Notify AIB status of H.626	Morgan	

Paul Hoekstra (Ontario Specialist)

Paul represented the Grain Farmers of Ontario. He has a background in farming, Syngenta bee health working group, CropLife Pollinator working group, and as a beekeeper.

He presented a federal overview of neonicotinoid regulations by the Canada Pest Management Regulatory Agency (PMRA), which is similar to the US EPA in reviewing new and registered pesticides.

Paul talked through the benefits of seed treatments as a targeted approach to pest control, helping to maximize crop yield. There is benefit to productivity, efficiency and sustainability of farm operations.

Reports from UK are saying farmers do 2.5-4 passes of foliar applications since moratorium on neonic treated seeds was put into place.

Paul walked through the Ontario timeline of bee health and the overlap with neonicotinoid risk:

2012-13 there were high levels of bee kills during time of planting (due to acute exposure to neonics in the dust generated during planting)

2014 new requirements to limit release of dust

2014-2016 a combination of controllable and uncontrollable variables like weather, communication, BMPs, and advanced seed lubricant introduced to fix acute exposure issue

2019 health Canada publishes decisions on risks to pollinators from exposure to neonics - “Use of neonic on corn and soy deemed safe” (with BMP)

Ontario created pollinator health document with the following objectives: 80% reduction neonic treated corn/soy acres and 15% reduction in overwinter hive loss by 2020.

- Regulation highlights
 - Restricted the sale and use of neonic treated corn and soybean
 - Increased training, reporting, and field specific testing by farmers (transitioning to 3rd party)
 - Treated seed up to 50% acres

- IPM training mandatory
- IPM certificate and declaration
- Restrictions to seed vendors and retailers on advertising sale and reporting/record keeping.
- Pest assessment by scouting or crop damage assessment on non-treated crop

Farmer response to regulations was that they were extremely burdensome and do not support science or innovation. The regulations ignored ongoing safety initiatives and they set arbitrary protection goals. There was no evidence that bee health will improve. And the economic impact to farmers will negatively impact the viability of farms (15-30% threshold for stand loss is unacceptable)

Paul talked about the Ontario regulations as not implementable, they ignored cumulative damage and IPM and resistance management principles (need multiple modes of action in farmers' toolbox). He also made the point that the timing of sampling and scouting doesn't correspond to when seeds need to be purchased. An lastly, there were not enough independent consultants in the province to do the inspections required in the regulations.

The current state in Ontario is to buy and use neonic treated seeds a farmer must:

1. Complete IPM training
2. Complete pest risk assessment (by farmers not independent agronomist)
 - a. Scouting, crop damage assessment, pest risk criteria
3. Sign a IPM written declaration form

Paul highlighted the lessons learned from the regulations within the province:

- Challenges
 - Removal of tools needed by farmers without considering unintended consequences
 - Arbitrary reduction goals
 - Burdensome, uninformative diagnostic tests
 - Excessive paperwork and processes with no value
 - Taking away ability of farmers to assess their own land and needs
- Positives
 - Provincial regulations now more aligned with federal science based system
 - Adoption of BMPs to mitigate exposure
 - Training connected with existing programs
 - Recognition of the complexity and time-sensitive nature of farming and that farmers know their needs the best

Paul Hoekstra contact: phoekstra@gfo.ca

Paul fielded questions from the AIB

Q Does the 15-30% stand loss threshold still exist?

A yes, the threshold still exists but most farmers chose to scout before instead of this end of season stand loss evaluation to be eligible for neonic seeds the following year.

Q What type of tests are used for scouting/monitoring?

A Bait balls primarily used 4-5 per every 10 acres

Q how were BMPs developed?

A CropLife Canada initiated them and worked with farmers, beekeepers and other key stakeholders to finalize.

When asked about specific data resulting from the impacts of the regulations, Paul stated they don't have numbers for stand loss seen without neonic treated seeds. With the regulations the maximum 50% of acres got treated but once farmers had to meet all requirements then planted substantially less. Acreage is back up with the current regulation status.

Q what was the availability of nontreated seed?

A Provincial government mandated that fungicide only or non neonic treated seeds be advertised and available. Now uptake of these is extremely low. Legislation made seed companies have both available in order to sell in province.

Q was there a measurable impact to pollinator health since law/BMPS in effect?

A Have not seen repeat of acute incidents that were seen in 2012. Ontario has learned that winter losses are highly variable and highly dependent on weather so no positive changes seen.

Paul's presentation will be available on the AIB website for reference.

Terry Bradshaw (UVM Assistant Professor Plant and Soil Science, Former Chair of Vermont Pollinator Protection Committee (VPPC))

Terry gave background information about the VPPC when it was formed through a legislative statute in 2016 and their committee outputs before disbanding a year later in 2017. 2

- Key points/ principles of VPPC
 - Evidence based decision making
 - Focus on managed and non-managed pollinators (most states only looking at managed honey bee)

The VPPC recognized that healthy managed pollinators protects native pollinators and state and conserved lands can be important pollinator habitats. Using broad-based education to farmers, pesticide applicators, and land managers can help protect pollinators.

Almost all VPPC recommendations received consensus or general agreement (at least 5 support with no significant opposition)

Consensus recommendation: education

UVM extension should increase information about risks of pesticide exposure to pollinators, including synergistic effects of tank mixes. In addition recommended the inclusion advocating for pollinator protection language on pesticide labels.

Consensus recommendation: regulation

Specify appropriate application conditions in pesticide regulations i.e. wind, timing, buffers, identifying pesticides highly toxic to bees, and avoid soil fumigants. The regulation recommendation also included a suggested moratorium on neonicotinoid use on ornamental plants and as asked VAAFMM to look into BMPs for neonic use.

Consensus recommendation: data gaps

VAAFMM needs to improve pesticide use tracking and should specifically call out the objective to reduce use of pesticides harmful to pollinators. The recommendation also outlined the potential for a statewide IPPM program through UVM extension which would set thresholds.

Consensus recommendation: land management

Support land management practices favorable to pollinator health (Agency of Natural Resources could use this recommendation for land planning)

Consensus recommendation: agricultural practices

Promote buffers required by act 64 and use financial incentives to increase use of practices that protect pollinator health.

General Agreement recommendations:

Use pesticides based on need, not prophylactically

All pesticides classified as highly toxic to bees should be restricted use products

VAAFAM should not renew registration of coumaphos

Split Opinion – favorable recommendation:

Pesticides with neonicotinoid active ingredients should become restricted use (this recommendation became law)

VAAFAM should use its new authority to develop BMPs to regulate treated articles

Split Opinion – unfavorable recommendation:

Prohibit use of systemic pesticides that are highly toxic to bees until after flowering.

Q What happened to BMPs that came out of VPPC?

A the committee did pull together drafts of recommendations the Terry would be happy to send drafts to AIB for them to build from.

*ACTION Terry send draft pollinator protection committee BMPs to AIB

Q How much of pollinator protection committee work was implemented?

A Not a lot because most were soft recommendations. We did see neonic products classified as restricted use get implemented. Education and monitoring is increasing as long as funds available to do so. Would love to see official UVM extension faculty to implement, but not enough funding for that. If we want to see big changes then we need to put resources up to support those changes.

All consensus recommendations have been incorporated into the new proposed pesticide regulations by VAAFAM.

[VPPC Report](#) is linked on the AAFM website.

Terry's presentation will be available on the AIB website for reference.

Keri Carstens and Colleagues (Seed Treatment Experts, Corteva Agriscience)

Rick Deadwyler (Region Government & Industry Affairs Leader (US, East)), Chris Hazel (Global Regulatory Lead for seed applied technology)

The Corteva team presented on introductory information about seed treatments as well as why they are beneficial.

Seed treatments are a mix of multiple products applied to seed, safeguarding the seeds and seedling against insects, fungal diseases, and soil borne pathogens.

One any individual seed is a formulation of products to protect: insecticides (neonics), fungicides (protect in storage and planted), nematicides, biologicals (enhance germination and vigor), dye (required by law so seeds do not get into food supply), binder (adheres to seed and improves plantability and handling , also can control release).

Benefits of seed treatment

- Improve seed and plant health, also to reduce exposure of people and beneficial insects and environment
 - Foliar or in-furrow applications can use up to 10x higher amounts of a.i. than seed treatment
 - Reduced total amount of pesticide used throughout life of crop
 - Selectively targets pests minimizes exposure to beneficial insects
 - Lowers operator exposure because no measuring and mixing
 - Effective at reduced rates
 - Reduces carbon footprint less tractor passes

- Less packaging materials
- Increases adoption of cover crops
- Seed treatments serve as vital component of IPM.
- Increase germination and promote uniform germination so stronger crop stands
- Increase likelihood of improved yields.

Treated seeds are effective for first 35-40 days, so there may still be a need for foliar application later in the season. This decrease in efficacy is because of degradation of compounds.

Insects that are targets of seed treatment are not easily predictable and are not easy to treat with rescue treatments because the plant won't be there to treat due to damage before germination.

[The Guide to Seed Treatment Stewardship](#) is an industry wide collaboration publication that provides farmers and seed companies with guidelines for up-to-date guidelines for managing treated seeds effectively to minimize the risk of exposure to non-target organisms. It covers BMPs for applicators and users of treated seeds i.e. safe use and handling, selection of treatment product, locating hives and communication with beekeepers.

Q Are neonic treated seeds grown into human consumed crops?

A Yes, the neonic labels state what seeds can be treated i.e. wheat, canola, but have gone through human health risk assessment and tolerances by EPA. Residues from seed treatment often lower than detection limits

Q What would be your recommendation to a farmer who is interested in reducing pesticide use?

A Corteva Sales Representatives and Agronomists would work with you to find out what is the right balance in your area. We have recommendations specific to your area, but is difficult to have all options for all seed varieties available. They have agronomists and sales reps to help you make the right choices for your farm.

Q IPM usually recommends rotation of classes, how does insecticide class rotation fit into treated seeds which only have neonics?

A Corteva has diamide insecticide treatment option for a relatively new treated seed option. Also rotating crop is option. We are working on other options in pipeline. It typically takes 10-12 years to develop new seed treatment products so working on alternatives, but takes time.

The Corteva presentation will be available on the AIB website for reference.

AAFM Update on Neonics/2022 Legislation

Morgan Griffith (Research & Policy Specialist, VAAFM)

Morgan presented research the Agency has conducted over the last 10 years monitoring for neonicotinoids in surface water, tile drain outlets, pollen from managed hives, soil and vegetation.

Surface water monitoring for clothianidin, thiamethoxam, and imidacloprid has found occasional detections, mostly in Franklin County. Clothianidin and thiamethoxam detections have decreased over the last 5 years. Monitoring data has indicated we should continue sampling and pursue further testing in sites with higher number of detections, i.e. Jewett Brook.

National honey bee survey pesticide testing results show pesticides are present, but no detections of neonicotinoids were found. However, it is pertinent to point out that survey results are from one grab sample a year. When VAAFM collected pollen samples on a weekly basis from 2 hives in 2012 and 2013, 4 total detections were found: imidacloprid in June 2012, clothianidin in May 2013 and

thiamethoxam twice in May 2013. All detections were found in the hive adjacent to conventional corn field.

Other historic tile drain outlet water data from 2015-2018 showed occasional detections of the 3 neonicotinoid chemicals, in general the highest levels were found during planting and decreased over the growing season. Imidacloprid was only found in proximity to soy fields.

VAAFM has tested soil and vegetation for neonics. Several positive detections in corn field soil samples, mostly during planting and early seedling growth, and all but one detection was within the top 12 inches of soil. Imidacloprid was detected in soy field soil samples. No neonics were detected in offsite vegetation samples adjacent to either corn or soy fields.

Morgan outlined the details of H.626, which was passed by the House and Senate Agriculture committees.

It states that AAFM, upon recommendation of AIB, *may* adopt by rule Best Management Practices relating to the sale, use, storage and disposal of treated articles that AIB has determined are hazardous to environment and/or human health.

Proposed rules should be submitted to House and Senate committees by March 1 2024. The AAFM *shall* adopt rule BMPs for the use of neonic treated article seeds. Rules shall address:

- A. Establish threshold levels of pest pressure required prior to use of neonic treated seeds
- B. Availability of non-treated seeds
- C. Economic impact from crop loss compared to yield when using neonic treated seeds
- D. Relative toxicities of different neonic treated seeds and effect on human health and environment
- E. Surveillance and monitoring techniques for in-field pest pressure
- F. Ways to reduce pest harborage from conservation tillage practices
- G. Criteria for a system of approval of neonic treated seeds

The bill also states that AAFM shall work with farmers, seed companies to ensure there is access to untreated seeds or seeds treated without neonics.

The bill states that Agency of Ag shall monitor pollinator health benchmarks.

And lastly it states the Ag Innovation Board shall submit a report to Senate and House Committees by Feb 15 2023 regarding whether BMPs should be adopted for the use of treated article seeds that are not neonic treated seeds. So the report will have: 1) a review of non-neonic treated seeds and identification of any that may have adverse effects on human health or the environment 2) recommendation of whether BMPs by rule are needed for non-neonic treated seeds 3) and if so, proposed BMPs for treated seeds that are not neonic treated.

The bill allocated 2 new permanent positions to AAFM to support this work.

Morgan's presentation will be available on the AIB website for reference.

Board member discussion, follow up questions, and policy ideas for the legislature report

Earl Ransom gave a summary of his strategy and results using untreated organic seed on his farm. He has grown corn last 25 years without treated seeds. He can only think of one year where he had non-germination because of insect damage. His strategy is to never grow corn 2 years in row in the same field, he is always plowing down sod and alfalfa inbetween. It means more diesel work to plow in cover crops so tries to grow corn every 4 years. Overall yield per acre probably lower. Non-treated organic seed is less expensive. He plants at a higher rate of 36,000-38,000 seeds per acre.

Honey bee health coalition have BMPs for corn, soy and apples. Brooke has put links on [apiary website](#) on Friday. We just need to promote to get the word out.

*ACTION all AIB members should read pollinator protection committee report and presentations from today

It was discussed if the AIB next step should be to start creating BMPs and have a shared space where all can contribute ideas.

Data that is lacking before AIB starts drafting BMPs:

- Post 2020 literature from Ontario to find out impacts of their regulation on crop acreage and on pollinator health.
 - What was decline in treated seed acreage?
 - Was there crop loss from using nontreated seeds?
 - What was quantitative impact on bee health?
 - What happened to average yield across whole province with and without treated seeds?
 - Preference of varieties available treated vs nontreated?
 - Also look at pesticide usage as replacement for neonic treated seeds? Does Ontario have that usage data?

It was discussed about the significance of the fact that Ontario growers went back to treated seed so drastically even when costs are more.

Look to California for treated seeds research and data

Potential experts to reach out to for further information/data about treated seed use:

David Biddinger PSU Entomologist

John Tooker PSU Entomologist

NEXT MEETING – Neonicotinoid focused

Hear from California

Hear from EPA Tom Steeger, Office of Pesticide Programs, Environmental Fate and Effects Division (their risk assessment says treated seed is not a risk to pollinators)

Deeper dive into Ontario data

*ACTION Jon find study out of Ontario/Health Canada

*Action Kanika try and find right people to ask our questions

*Action Cary help get CA contact

*ACTION Kanika send summary of what she needs help with

*ACTION let AIB know status of H.626

Next meeting June 28th

Public Comment

Judy (Sierra Club VT) – following science is important as well as yields and effectiveness. In 2014 EPA determined no difference between soy yields treated vs nontreated seeds. 4 year study in Ontario and

study in Quebec about treated seeds vs untreated seeds. There is also a 400 page Cornell report concluding there are no effects from using treated seeds. Regulating seeds should be very strict if they are not giving the benefit.

Mike Bald – relay comment for Sylvia Knight concern about unused neonic seeds. Where and how do unused seeds get disposed of?

Mike's comments were concerning public participation and were unrelated comments concerning the VAAFM right of way permits and permitting process. He asked to know objectives and what the public can expect from upcoming AIB meeting discussing glyphosate and atrazine because there have been decades of analysis already, so he is hoping AIB will look at steps moving forward figuring out how to reduce the use. Kanika can reach out to Mike to help coordinate agenda for that meeting.