

ANNUAL REPORT OF THE AGRICULTURAL INNOVATION BOARD

2021 Act No. 49, codified at 6 V.S.A. § 4964(c)(1)

Submitted to the:  
General Assembly

By the:  
Agricultural Innovation Board and the Vermont Agency of Agriculture, Food &  
Markets

January 9, 2023

6 V.S.A. § 4964(c)(1) Powers and duties of the Board.

“The Agricultural Innovation Board shall:

**(1) issue a report annually to the General Assembly on or before January 15 that recommends policy solutions to assist farmers in:**

**(A) reducing the use of and exposure to pesticides; and**

**(B) the use of innovative or alternative practices[.]”** (Emphasis added.)

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## Introduction

On June 1, 2021, Governor Scott signed Act 49 into law and the Agricultural Innovation Board (the Board or AIB) was created. The Board is tasked with thirteen separate charges (Table 1). The Board has input in five additional areas of potential rulemaking, centered on developing recommendations for regulations establishing best management practices (BMPs) for seeds treated with insecticides used in Vermont agriculture, with specific integrated pest management (IPM) practices that need to be considered (Table 2). The establishment of the Board and its responsibilities are codified at 6 V.S.A. §§ 1105a and 4964(a)-(d).

Pursuant to the enabling legislation, the Board shall provide an annual report to the General Assembly that recommends policy solutions to assist farmers in reducing the use of and exposure to pesticides, and the use of innovative or alternative practices. This document is the Board's annual report, as well as a description of the Board's work, and an outline of the planned work for the coming year.

## Board Meetings

Pursuant to 6 V.S.A. § 4964(b)(4), the Board is required to meet at least four times a year. The Board met six times in calendar year 2022. Board Meetings were held on February 28, 2022, April 11, 2022, May 23, 2022, July 25, 2022, November 11, 2022, and December 19, 2022. Minutes from these meetings are maintained by the Agency of Agriculture, Food & Markets (Agency) and are available on the AIB Website under "Meeting Information" at this link: <https://agriculture.vermont.gov/public-health-agricultural-resource-management-division/pesticide-programs/agricultural-innovation>

## Work of the Board

During 2022, the Board began addressing its responsibilities by hearing presentations and obtaining information that it may use to develop its policy recommendations. A list of the presentations and issues discussed is presented in Table 3. The presentations made to the Board are retained by the Agency and are available on the AIB Website at the link provided above.

## Policy Recommendation Status

The Board is not making any policy recommendations in its first annual report. Policy recommendations designed to assist farmers in reducing the use of and exposure to pesticides, and the use of innovative or alternative practices require thorough consideration. The Board started its process by discussing the topics that it is charged with addressing, and by considering the information provided through presentations the Board requested.

It is important to recognize that the Board needs to evaluate a vast amount of information to fully consider policy options. The Board is proceeding thoughtfully and cautiously to fully understand the effectiveness of any recommendations, to evaluate their potential impacts, and to avoid unintended consequences. Additionally, some important information is still being developed.

For example, a demonstration project regarding best management practices developed by Extension Professor, Agronomy Specialist Heather Darby, Ph.D., was awarded a Pesticide Environmental Stewardship Program grant from the U.S. Environmental Protection Agency ([Pesticide Environmental Stewardship Program Grants | US EPA](#)). The outreach and education project focuses on the use of Integrated Pest Management practices to reduce neonicotinoid seed treatments applied to row crops in Vermont. In addition to trainings, crop specific factsheets, technical assistance, and webinars, there will be six partner farms with demonstration plots planted with neonicotinoid treated corn compared to plots planted with fungicide only treated corn (depending on seed availability). The two-year project begins early 2023, as funding becomes available. There is another study coordinated by the UVM Extension Northwest Crops and Soils Program that is in collaboration with a national network, called the Discovery Farms<sup>®</sup> Program, with the objective of developing on-farm research to determine economic and environmental effects of agricultural practices on a diverse group of farms across the country ([Discovery Acres | Northwest Crops and Soils Program | The University of Vermont \(uvm.edu\)](#)). One goal of this Discovery Acres Vermont project is focused on the relationship between commercial agricultural production and water quality. Starting in 2023, the water samples collected from this project will be analyzed for neonicotinoids and common corn herbicides to assess the extent to which chemicals are moving off-target from the neonicotinoid treated seeds or other pesticide applications.

The Board began its work in earnest despite the impact of Covid-19 meeting restrictions on face-to-face meetings. This limited the extensive interaction and discussion that is needed to evaluate information and policy alternatives inherent to considering policy recommendations to the Agency Secretary and Legislature. The underlying issues are complex and implicate the key goals of supporting and encouraging the growth and viability of Vermont agriculture while protecting the working landscape, human health, and the environment.

Nevertheless, the Board's work has positioned it to make policy recommendations over the next several years. The Board will be considering recommendations regarding best management practices for seed not treated with neonicotinoids early in calendar year (CY) 2023 and will be considering best management practices for neonicotinoid treated seeds throughout the remainder of the year.

## [Board Work Plan for CY 2023](#)

The anticipated schedule of issues the Board will consider during the coming year is summarized in Table 4. This list does not include all the Board's charges. It will not be possible for the Board to develop policy recommendations for all issues within its purview during this next year.

The Board is comprised of many appointed volunteers who generously agreed to serve due to the importance of these topics to Vermont's agriculture and environment, and their dedication to serving the people of Vermont. These members have many other responsibilities, and it is necessary to annually prioritize the issues presented to them for consideration. The members must evaluate a considerable amount of information to enable the Board to develop any sound recommendations.

The menu of issues listed in Table 4 reflects these considerations. The Board will focus on these areas in CY 2023 to make effective progress toward fulfilling its many charges.

Information the Board needs for its discussions is also noted in the table. It should be recognized that some important information may still be in development over the next year and the Board will have to consider these deficits when evaluating policy recommendations and best management practices.

## Public Participation with the Board

Pursuant to 1 V.S.A. §§ 310-314, and in compliance with Vermont’s Open Meeting Law, Board Meetings are open to the public and are noticed by posting meeting information on the Agency of Administration’s Department of Libraries public meeting calendar for State Agencies, as well as the Agency of Agriculture, Food and Markets’ AIB Website, at least two weeks prior to each scheduled meeting. Information pertaining to any special meetings will be publicly posted at least 24 hours in advance of the Board’s meeting. Meeting time, location, call-in number, and video meeting link are provided in the notices and agendas are both provided to members and posted publicly to the AIB Website at least 48 hours in advance of regular meetings and 24 hours in advance of special meetings. Time is allotted at each meeting for public comments. Interested persons are invited to attend the meetings as noticed.

**Table 1. Agricultural Innovation Board Legislative Charges / Reporting Requirements as established in 6 VSA § 4964 (a) through (d).**

<b>Item</b>	<b>Responsibility/Charge</b>
1	Review historic recommendations for pesticide reduction in the State and coordinate with existing work groups to avoid submitting to the General Assembly conflicting policy recommendations on the regulation of pesticides and farming.
2	Recommend practices that reduce the use of and exposure to pesticides and synthetic fertilizers in order to protect soil biology, human health, and environmental health, including recommended targets to achieve the State goal of an overall reduction in the use of pesticides consistent with sound pest or vegetative management practices.
3	Advise the Executive Branch and the General Assembly with respect to legislation concerning the use of agricultural pest control measures and integrated pest management.
4	Recommend to the Secretary of Agriculture, Food and Markets policies, proposed rules, or legislation for the regulation of the use of treated articles when the Board determines that use of a treated article will have a hazardous or long-term deleterious effect on the environment in Vermont, presents a likely risk to human health, or is dangerous. (Note: amended by Act 145, 2022; see Table 2).
5	Recommend practices to reduce the use and generation of waste associated with plastic in farming.
6	Incentivize farming practices that are looking to reduce the use and dependence on pesticides in their practices.
7	Advise the Agency with regard to the regulation of plant biostimulants.
8	Recommend studies necessary for the performance of its functions as established under this section.
9	Explore methods and standards for transitioning farmers to practices that reduce pesticide usage.
10	Explore methods and standards for farmers to engage in carbon sequestration or mitigation.

11	Review the seed traits of a new genetically engineered seed proposed for sale, distribution, or use in the State.
12	Study and issue recommendations regarding the feasibility of the use of biodegradable plastics in agriculture and the promotion of the use of and production of biodegradable plastics and similar products in Vermont.
13	Seed review. The Agricultural Innovation Board shall advise the Secretary regarding the sale, distribution, or use of genetically engineered seed in the State and may recommend to the Secretary limits or conditions on the sale, distribution, or use of a genetically engineered seed or seeds or recommend a limited period of time for sale of a genetically engineered seed or seeds.
<b>REPORTING</b>	
1	Issue a report annually to the General Assembly on or before January 15 that recommends policy solutions to assist farmers in: (A) reducing the use of and exposure to pesticides; and (B) the use of innovative or alternative practices.
2	Propose an annual budget report that provides ideas for funding sources for any new programs recommended in the annual report.
3	Survey farmers from every county in the State to help better understand how agricultural inputs, such as pesticides, synthetic fertilizers, and plastics, are currently used, as well as current challenges farmers face in reducing these inputs in order to better inform recommendations to be provided in the annual report required under subdivision (1) of this subsection.

**Table 2. Agricultural Innovation Board Legislative Charges / Reporting Requirements as established in 6 VSA § 1105a (a) through (c).**

<b>Item</b>	<b>Responsibility/Charge</b>
1	The Secretary of Agriculture, Food and Markets, upon the recommendation of the Agricultural Innovation Board, may adopt by rule:
2	best management practices (BMPs), standards, procedures, and requirements relating to the sale, use, storage, or disposal of treated articles the use of which the Agricultural Innovation Board has determined will have a hazardous or long-term deleterious effect on the environment, presents a likely risk to human health, or is dangerous;
3	requirements for the response to or corrective actions for exigent circumstances or contamination from a treated article that presents a threat to human health or the environment;
4	requirements for the examination or inspection of treated articles the use of which the Agricultural Innovation Board has determined will have hazardous or long-term deleterious effect on the environment, presents a likely risk to human health, or is dangerous;
5	requirements for persons selling treated articles to keep or make available to the Secretary records of sale of treated articles, and what treatments were received, the use of which the Agricultural Innovation Board has determined will have a hazardous or long-term deleterious effect on the environment, presents a likely risk to human health, or is dangerous; or
6	requirements for reporting of incidents resulting from accidental contamination from or misuse of treated articles the use of which the Agricultural Innovation Board has determined will have a hazardous or long-term deleterious effect on the environment, presents a likely risk to human health, or is dangerous.
7	At least 30 days prior to prefiling a rule authorized under subsection (a) or subsection (c) of this section with the Interagency Committee on Administrative Rules under 3 V.S.A. § 837, the

	Secretary shall submit a copy of the draft rule to the Senate Committee on Agriculture and the House Committee on Agriculture and Forestry for review.
8	Under subsection (a) of this section, the Secretary of Agriculture, Food and Markets, after consultation with the Agricultural Innovation Board, shall adopt by rule BMPs for the use in the State of neonicotinoid treated article seeds. In developing the rules with the Agricultural Innovation Board, the Secretary shall address:
9	establishment of threshold levels of pest pressure required prior to use of neonicotinoid treated article seeds;
10	availability of nontreated article seeds that are not neonicotinoid treated article seeds
11	economic impact from crop loss as compared to crop yield when neonicotinoid treated article seeds are used;
12	relative toxicities of different neonicotinoid treated article seeds and the effects of neonicotinoid treated article seeds on human health and the environment;
13	surveillance and monitoring techniques for in-field pest pressure
14	ways to reduce pest harborage from conservation tillage practices; and
15	criteria for a system of approval of neonicotinoid treated article seeds.
16	In implementing the rules required under this subsection, the Secretary of Agriculture, Food and Markets shall work with farmers, seed companies, and other relevant parties to ensure that farmers have access to appropriate varieties and amounts of untreated seed or treated seed that are not neonicotinoid treated article seeds.
<b>REPORTING</b>	
	On or before March 1, 2024, the Secretary of Agriculture, Food, and Markets shall submit to the Senate Committee on Agriculture and the House Committee on Agriculture and Forestry a copy of the proposed rules required to be adopted under 6 V.S.A. § 1105a.
	On or before February 15, 2023, the Agricultural Innovation Board shall submit to the Senate Committee on Agriculture and the House Committee on Agriculture and Forestry a written report regarding whether best management practices (BMPs) should be adopted for the use of treated article seeds that are not neonicotinoid treated article seeds. The report shall include: (1) a summary of the Agricultural Innovation Board ’ s review of treated article seeds that are not neonicotinoid treated article seeds, including identification of treated article seeds that may have adverse effects on human health or the environment; (2) a recommendation of whether BMPs for treated article seeds that are not neonicotinoid treated article seeds should be adopted and whether they should be adopted by rule; and (3) proposed BMPs for treated article seeds that are not neonicotinoid treated article seeds.

Table 3. Issues and Presentations considered by the Agricultural Innovation Board in CY 2022

Meeting Date	Discussion Topics and Presentations	Meeting Minutes
5/23/22	<a href="#">Seed Treatment Technology Overview – Corteva Agriscience</a>	<a href="#">05/23/2022 Agenda &amp; Minutes</a>
5/23/22	<a href="#">Neonicotinoid Research at AAFM – Vermont Agency of Agriculture, Food &amp; Markets</a>	
5/23/22	<a href="#">Pollinator Protection Efforts in Vermont – Terence Bradshaw, Ph.D., UVM</a>	

5/23/22	<a href="#">Neonicotinoids and Bee Health: A perspective on government regulations – Paul Hoekstra, Grain Farmers of Ontario</a>	
7/25/22	Update from Vermont Beekeepers Association – Andrew Munkres, Vermont Beekeepers Association	<a href="#">07/25/2022 Agenda &amp; Minutes</a>
11/28/22	<a href="#">UVM Extension Introduction to Treated Seed Demonstration Project</a>	<a href="#">11/28/2022 Agenda &amp; Minutes</a>
11/28/22	Draft Vermont Farmer Survey	
11/28/22	<a href="#">Proposed Pesticide Rule – David Huber</a>	
12/19/22	Previously published relevant best management practices for treated seed	<a href="#">12/19/2022 Agenda &amp; Minutes</a>
12/19/22	<a href="#">Understanding Agricultural Inputs Vermont Farmer Survey Finalization</a>	

Table 4. Agricultural Innovation Board Work Planned Focus Areas for CY 2023 (not necessarily in priority order).

Item	Responsibility/Charge	Informational Needs
1	Review historic recommendations for pesticide reduction in the State and coordinate with existing work groups to avoid submitting to the General Assembly conflicting policy recommendations on the regulation of pesticides and farming.	Recommendations from other extant groups evaluating pesticides and related issues in Vermont.
2	Recommend practices that reduce the use of and exposure to pesticides and synthetic fertilizers in order to protect soil biology, human health, and environmental health, including recommended targets to achieve the State goal of an overall reduction in the use of pesticides consistent with sound pest or vegetative management practices.	Research and demonstration projects involving agricultural impacts and landscape management impacts on areas of AIB concern.
3	Advise the Executive Branch and the General Assembly with respect to legislation concerning the use of agricultural pest control measures and integrated pest management.	Legislation concerning the use of agricultural pest control measures and integrated pest management introduced in the 2022/2023 Legislative Session.
4	Recommend to the Secretary of Agriculture, Food and Markets policies, proposed rules, or legislation for the regulation of the use of treated articles as per the requirements of 6 VSA § 1105a.	Information on the use and availability of treated seed in Vermont, alternatives to treated seed, impacts of treated seed on environment, value of treated seed to farmers, reports of incidents related to treated seed, other information as the Board may request.
5	Recommend studies necessary for the performance of its functions as established under this section.	Studies needed to provide information not currently available to address Item 4.
6	Survey farmers from every county in the State to help better understand how agricultural inputs, such as pesticides, synthetic fertilizers, and plastics, are currently used, as well as current challenges farmers face in reducing these inputs	Results of the survey of farmers conducted per 6 VSA §4964 (c) 3.



	in order to better inform recommendations to be provided in the annual report required under subdivision (1) of this subsection.	
7	Report to the Legislature by February 15, 2023 regarding the need for best management practices (BMPs) for the use of treated article seeds that are not neonicotinoid treated article seeds per the requirements of 6 VSA § 1105a.	Information on the use of seed not treated with neonicotinoids and any impacts from the use of such seed.
8	Report to the Legislature by March 1, 2024 a copy of the proposed rules required to be adopted per 6 VSA § 1105a.	BMPs recommended by the Board as per item 4 above.

## Appendices

### Appendix A: Board Members

#### **Wendy Sue Harper, Ph.D.**

**Soil Scientist, Associate Faculty, Prescott College**

AIB Role Fulfillment: Soil Biologist

#### **Clara Ayer**

**Dairy Farmer, Fairmont Farm**

AIB Role Fulfillment: an active farmer who is a member of an organization representing the conventional dairy industry in Vermont

#### **Fitzroy “Roy” Beckford, Ph.D.**

**Associate Dean and Director of UVM Extension in the College of Agriculture and Life Sciences**

AIB Role Fulfillment: a member from the University of Vermont Center for Sustainable Agriculture

#### **Terence “Terry” Bradshaw, Ph.D.**

**Assistant Professor, Department of Plant and Soil Science / Director, Horticultural Research and Education Center, University of Vermont**

AIB Role Fulfillment: an active farmer who is a member of an organization representing fruit and vegetable farmers in Vermont

#### **Jonathan Chamberlin**

**Ag Retail/Crop Consultant, Bourdeau Brothers**

AIB Role Fulfillment: a certified crop consultant

#### **Clarice Cutler**

**Environmental Analyst, Department of Environmental Conservation, Agency of Natural Resources**

AIB Role Fulfillment: the Secretary of Natural Resources or designee

**Earl Ransom**

**Organic Dairy Farmer, Rockbottom Farm**

AIB Role Fulfillment: an active farmer who is a member of an organization representing the organic farming community

**Ryan Rebozo, Ph.D.**

**Director of Conservation Science, Vermont Center for Ecostudies**

AIB Role Fulfillment: a member of an environmental organization that advocates for policy regarding the management or reduction of toxic substances in the State

**Steven Schubart**

**Grass-fed beef operation owner, Grass Cattle Company**

AIB Role Fulfillment: an active farmer who is a member of an organization representing grass-based, non-dairy livestock farming in Vermont

**Sarah Vose, Ph.D.**

**State Toxicologist, Department of Health, Agency of Human Services**

AIB Role Fulfillment: the Commissioner of Health or a designee with expertise in the effects of pesticides on human health

**Laura DiPietro**

**Director, Water Quality Division, Agency of Agriculture, Food & Markets**

AIB Role Fulfillment: the Director of the Agency of Agriculture, Food and Markets, Water Quality Program or designee

**Morgan Griffith**

**Agrichemical Program Manager, Public Health and Agricultural Resource Management Division, Agency of Agriculture, Food & Markets**

AIB Role Fulfillment: the Director of the Agency of Agriculture, Food and Markets, Agrichemical Program or designee

**Steven Dwinell**

**Director, Public Health and Agricultural Resource Management Division, Agency of Agriculture, Food & Markets**

AIB Role Fulfillment: the Secretary of the Agency of Agriculture, Food and Markets or designee