State of Vermont

Agency of Agriculture, Food and Markets

Public Health & Agricultural Resource Management Division

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Best Management Practices for the Use of Neonicotinoid Treated Article Seeds and Neonicotinoid Pesticides

Rule Number:

Effective Date:

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Vermont Best Management Practices for the Use of Neonicotinoid Treated Article Seeds and Neonicotinoid Pesticides

Section 1. General

1.01 Enabling Legislation: This rule is adopted pursuant to 6 V.S.A. § 1105a(a)(1) and (c)(1). This rule is intended to be interpreted harmoniously with State and federal law, including the Vermont Rule for Control of Pesticides.

1.02 Purpose: This rule establishes best management practices (BMPs) for the appropriate use of neonicotinoid treated article seeds and neonicotinoid pesticides. Unless otherwise stated, these practices are recommended best practices to be used whenever reasonable and practical.

Section 2. Definitions

2.01 Agricultural Commodity means the same as it is defined in 6 V.S.A. Chapter 87.

2.02 Agricultural Emergency means an occurrence of any pest that presents an imminent risk of significant harm, injury, or loss to agricultural crops.

2.03 Bloom means the period from the onset of flowering or inflorescence until petal fall is complete.

2.04 Crop Group means the groupings of agricultural commodities specified in 40 C.F.R. § 180.41(c) (2023).

2.05 Container means a device in which a neonicotinoid treated article seed is stored, transported, disposed of, or otherwise handled.

2.06 Environmental Emergency means an occurrence of any pest that presents a significant risk of harm or injury to the environment, or significant harm, injury, or loss to agricultural crops, including any exotic or foreign pest that may need preventative quarantine measures to avert or prevent that risk, as determined by the Secretary of Agriculture, Food and Markets.

2.07 Groundwater means water below the land surface that occurs in a zone of saturation.

2.08 Integrated Pest Management (IPM) means a sustainable, science-based, decision-making process that combines biological, cultural, physical and chemical tools to identify, manage and reduce risk from pests, and utilizes pest management tools and strategies that minimize overall economic, health and environmental risks. The four steps of IPM include:

Commented [ws1]: Be good to include IPM tenets: 1) **Set Action Thresholds, 2) Monitor and Identify Pests, 3) Use prevention strategies first, and 4) Control: pesticide are the last resort.** https://www.epa.gov/safepestcontrol/integrated-pest-management-ipm-principles

Commented [MG2R1]: Additional information in IPM definition

Commented [GM3R1]: JC: 4 steps is beyond. we need to be matched with NY. use EPA definition of IPM

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(a) setting an action threshold, a point at which pest populations or environmental conditions indicate that pest control action must be taken to reduce the economic threat of a pest;

(b) monitoring and identifying pests to gauge if action thresholds have been met and to inform control decisions;

(c) using management practices that prevent pests; and

~~2.08~~(d) prioritizing effective control practices, including mechanical control, biological control, and targeted chemical pesticide application, with lower potential human and environmental non-target risk.

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2.10 Label or Labeling means:

(a) the written, printed, or graphic matter on, or attached to, the seed bag, or the immediate container thereon;

(b) the outside container or wrapper of the retail package, if there is one, of the seed bag; and

(c) the written, printed, or graphic matter that is incorporated into the label by reference.

2.11 Loading means any act of transferring a neonicotinoid pesticide or neonicotinoid treated article seed to or from any storage container, application equipment, or planter.

2.12 Neonicotinoid Pesticide means the same as it is defined in 6 V.S.A. Chapter 81.

2.13 Neonicotinoid Treated Article Seeds are treated article seeds that are treated or coated with a neonicotinoid pesticide.

2.14 Ornamental Plant means the same as it is defined in 6 V.S.A. Chapter 87.

2.15 Person means the same as it is defined in the Vermont Rule for Control of Pesticides.

2.16 Secretary means the Secretary of the Agency of Agriculture, Food and Markets, and their designees.

2.17 Storage means the holding of a neonicotinoid treated article seed or neonicotinoid pesticide for use or distribution in an area other than the sales floor of a licensed retailer.

2.18 Surface Water means the same as it is defined in 6 V.S.A. Chapter 215.

2.19 Treated Article means a pesticide or class of pesticides exempt under 40 C.F.R. § 152.25(a) from regulation under the Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. § 136-136y.

2.20 Use means:

(a) pre-planting activities involving the transporting and loading of a neonicotinoid treated article seed;

(b) planting of a neonicotinoid treated article seed;

(c) transporting or storing a neonicotinoid treated article seed or container that has been opened;

(d) cleaning equipment used for transporting or planting a neonicotinoid treated article seed; and

(e) disposing of any excess neonicotinoid treated article seed, equipment wash water, or container.

Section 3. Best Management Practices for the Use of Neonicotinoid Treated Article Seeds

3.01 Applicability
The provisions of this section shall apply to the use of neonicotinoid treated article seeds when used prior to January 1, 2029 and when used under a valid exemption order issued by the Secretary.

3.02 General
A person who uses a neonicotinoid treated article seed should adhere to label requirements. Where provisions of this rule conflict with label language, the label language applies.

Commented [ws4]: Should appropriate PPE and training be included here?

3.03 Label Guidance
A person using a neonicotinoid treated article seed should follow the directions and requirements on a neonicotinoid treated article seed bag label including:

(a) proper handling, storage, use, and disposal;

(b) recommended rate and depth of planting; and

(c) hazard statements related to pollinators.

3.04 Dust and Non-target Exposure Mitigation
A person using a neonicotinoid treated article seed should minimize dust generation and potential drift or other non-target exposure from the seed by:

Commented [rr5]: can we include example methods for c and f?

Commented [GM6R5]: this is area where UVM Extension would provide training and examples

(a) avoiding planting during windy conditions (>15mph) and when wind is blowing toward a nearby surface water or flowering crops;

(b) handling seed bags carefully during transport and loading to reduce abrasion and dust generation;

(c) using dust-reducing seed lubricants at appropriate rates and avoid using lubricants that increase dust due to abrasion;

(d) ensuring that the planter is calibrated and functions properly;

(e) avoiding or reducing releasing excess dust from a seed bag, including by loading planters at least 10 yards inside field borders;

(f) cleaning planting equipment without using compressed air;

(g) cleaning planting equipment without contaminating surface water and pollinator attractive habitats;

(h) disposing of excess rinse water from cleaning within the crop field and without causing surface ponding;

(i) not broadcasting plant or scatter seeds to soil surfaces;

(j) ensuring that all planted seeds are thoroughly incorporated during planting and evaluate whether additional incorporation is necessary after initial planting to thoroughly cover any exposed seeds; and

(k) collecting any seeds spilled during loading or planting and store them for subsequent planting in accordance with Section 3.07, or dispose of any seeds spilled during loading or planting in accordance with Section 3.08.

3.05 Integrated Pest Management

A person using a neonicotinoid treated article seed should implement integrated pest management practices including:

(a) utilizing multiple pest management and pest prevention methods (cultural, mechanical, biological) to avoid or reduce pest risk, whenever feasible;

~~(a)~~(b) learning which crop production practices increase or reduce risk of insect pest damage; and

~~(b)~~ choosing an appropriate rate of neonicotinoid seed treatment that can effectively manage target pests without overapplication.; and

Commented [ws7]: This section does not follow IPM tenets--action thresholds should be set, there should be monitoring, preventive and cultural practices, then the resort is pesticide use. It might be most useful to how how this would work for corn farmers, e.i. if actions threshold were met in 2024 with preventive and cultural practices and monitoring showed it was the ID'd pest of concern, then in 2025 implement the neonic seed treatment....

Commented [MG8R7]: Reordered to follow IPM steps

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Commented [ws9]: Add: Develop economic threshold levels based on scouting, pest pressure and damage.

Commented [GM10R9]: between (b) and (c)

Commented [ws11]: Add here: Rotate neonicotinoids with other classes of insecticides to avoid resistance development in pest populations.

Commented [GM12R11]: as (d)

JC: utilize different modes of action (including insecticide classes and genetic resistance) to avoid resistance development in pest populations

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(c) ~~utilizing multiple pest management methods (cultural, mechanical, biological) to avoid or reduce pest risk, whenever feasible.~~

3.06 Communication and Continuous Education

(a) No person should use a neonicotinoid treated article seed without prior notification of at least 48 hours to any apiculturists who has an established apiary on the premises.

(b) A person using a neonicotinoid treated article seed should attend reasonably available education and outreach programs, including those provided by university extension services or the seed industry related to best management practices for using neonicotinoid treated article seeds.

3.07 Storage

(a) A person using a neonicotinoid treated article seed should return the neonicotinoid treated article seed that is spilled during loading or planting to the original seed lot container.

(b) A person using a neonicotinoid treated article seed should store neonicotinoid treated article seed away from food and feedstuff~~,~~ and protect and secure them to prevent unauthorized access by people and wildlife.

3.08 Disposal

(a) Unless being used for storage in accordance with Section 3.07, a person using- a neonicotinoid treated article seed shall dispose of neonicotinoid treated article seeds and/or containers:

(1) in accordance with the seed bag label and local requirements; or

(2) by returning to the manufacturer.

(b) A person using a neonicotinoid treated article seed should not:

(1) recycle a neonicotinoid treated article seed container;

(2) compost any neonicotinoid treated article seed;

(3) burn or otherwise incinerate any neonicotinoid treated article seed in a stove inside a residence or outbuilding; and/or

(4) use a treated seed for fuel or ethanol production purposes.

Commented [br13]: communication, 3.06 A does this suggest that prior to planting, farmers would need to let beekeepers on there own farm know that they will be using treated seed? Field planting and conditions and windows are so variable that it could be very difficult to know that 48 hours prior in many conditions. I have already heard some farmers say that they may not let hives be on there properties if coditions like this are put into affect .

Commented [MG14R13]: discuss further at Dec 9 mtg. alternative communication option - add a maximum time before that can notify? 1 yr? 6mon?

Commented [GM15R13]: JC: communication should go both ways, apiary on property should notify operator of that land about hive location

Section 4. Best Management Practices for the Use of a Neonicotinoid Pesticide

4.01 Applicability

(a) The provisions of this section shall apply to the use of neonicotinoid pesticides when used after July 1, 2025 under a valid exemption order issued by the Secretary unless otherwise provided for in an exemption order.

(b) The provisions of this section shall apply to the agricultural use of a neonicotinoid pesticide after July 1, 2025, the use of which is otherwise not prohibited by law.

(c) In addition to the provisions of this section, any use of a neonicotinoid pesticide shall be made in accordance with product labels and the Vermont Rule for Control of Pesticides.

4.02 Integrated Pest Management

A person using a neonicotinoid pesticide should implement integrated pest management practices, including:

(a) learning which crop production practices, including crop variety selection and crop rotation, that increase or reduce risk of insect pest damage;

(b) scouting crop regularly and use economic thresholds to help determine if, when, and where, to apply;

(c) utilizing multiple pest management methods (cultural, mechanical, biological) to avoid or reduce pest risk, whenever feasible;.

(d) using perimeter trap-crop treatments, refuge plantings, and other methods that prevent the entire field or population from being treated to help preserve susceptible individuals;

~~(b)~~ choosing the lowest appropriate labeled application rate that can effectively manage target pests without overapplication or risking increased insecticide resistance;

~~(c) scouting crop regularly and use economic thresholds to help determine if, when, and where, to apply;~~

(e)

~~(d) using perimeter trap-crop treatments, refuge plantings, and other methods that prevent the entire field or population from being treated to help preserve susceptible individuals;~~

~~(e)~~(f) timing applications to target the most vulnerable life-stage of the target pest; and

~~(f)~~(g) targeting applications to specific areas of a crop or field utilizing spot spraying, directed sprays, and band applications based on scouting.~~; and~~

Commented [ws16]: Add set action threshold and reorder. Put pesticide related one at the bottom, and preventative/cultural ones at the top, because they should come first in the field.

Commented [MG17R16]: reordered

Commented [ws18]: Add here: Add: Develop economic threshold levels based on scouting, pest pressure and damage.

Commented [GM19R18]: between (a) and (b)

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~~(g) utilizing multiple pest management methods (cultural, mechanical, biological) to avoid or reduce pest risk, whenever feasible.~~

4.03 Drift Prevention and Non-target Exposure Mitigation

A person using a neonicotinoid pesticide should implement measures to reduce drift, including:

(a) using a nozzle that produces medium or coarser droplet sizes;

(b) applying during favorable weather conditions;

(c) using a drift retardant or spray additive within label guidance;

(d) using a shielded sprayer, provided that the shield does not compromise uniform deposition;

(e) maintaining at least a 25-foot spray buffer zone between the application area and surface water for ground applications, and a 150-foot spray buffer zone for aerial applications;

(f) maintaining a boom height no more than four feet above the canopy for ground applications and no more than 10 feet above the canopy for aerial applications; ~~and~~

(g) spraying when wind direction is pointed away from non-target areas of concern; and.

~~(g)~~(h) ensuring that application equipment is calibrated and functions properly.

4.04 Spills

A person using a neonicotinoid pesticide should implement measures to prevent spills, including:

(a) mixing and loading away from waterbodies and ditches;

(b) using a designated spill containment surface or otherwise maintain a 25-foot buffer from potential surface to groundwater conduits; and

(c) maintaining an incident response plan.

4.05 Runoff and Prevention

A person using a neonicotinoid pesticide should implement measures to prevent runoff, including:

(a) avoiding applications during rain or when soil is saturated;

Commented [ws20]: Add: Do not apply when trees and shrubs are in flower or shortly before flowering, and avoid drift onto flowering weeds in or around treated areas.

Commented [GM21R20]: WSH: option to use minimize instead of avoid.
JC: concern about logistics of finding time to spray when nothing is in bloom. previous BMPs are drift reduction and then hard to have BMP that implies drift will occur onto neighboring blooms

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(b) avoiding foliar applications if rain is predicted in the next 24 or 48 hours;

(c) avoiding disposal of leftover pesticide down a drain or in a single spot in a field; maintaining grass or vegetative buffers near tile outlets, in drainage ways, and along field boundaries; and

(d) implementing residue management practices (e.g. conservation tillage, ~~or~~ cover cropping, or maintaining filter strips or vegetative buffers) as applicable to slow runoff.

4.06 Pollinator Protection

A person using a neonicotinoid pesticide should implement measures to prevent exposure to pollinators, including:

(a) avoiding applications during unusually low temperatures or when dew is forecast; communicating with apiculturists and growers to determine the presence of potential hives or colonies on site;

(b) following label restrictions for the maximum amount of neonicotinoid allowed per acre, per application, per season, or per year,

(c) taking into account that neonicotinoids applied as seed treatments count towards maximum application rates; and

(d) leaving a buffer strip of two-to-three feet between neonicotinoid treated turf and the border of any landscape bed to minimize the potential of flowering ornamental roots taking up neonicotinoids.

Section 5. Severability

If any provision of this rule, or the application thereof to any person or circumstance, is held invalid, such determination shall not affect other provisions or applications of this rule that can be given effect without the invalid provision or application, and to that end the provisions of this rule are severable.

Section 6. Effective Date

This rule shall become effective on [15 days after adoption].

Commented [ws22]: Add creating safe pollinator habitat away from treatment areas. (NRCS has several pollinator friendly practices it cost-shares, e.i. CAP 148.)

Commented [GM23R22]: there is a place for this in an accompanying guidance in addition to the BMP rule

Commented [ws24]: Should there be a section on prohibited practices? Such as:

Do not apply aerially. Do not inject into tree trunks, Do not apply during temperature inversions, during saturated soil conditions, and when raining or rain is predicted within 48 hours.

Prohibited uses that could receive an exemption order and should be included in these BMPs include:
- outdoor application of neonics to any crop during bloom
- outdoor application of neonicotinoid pesticides to soybeans or any crop in the cereal grains crop group
- outdoor application of neonicotinoid pesticides to crops in the leafy vegetables; brassica; bulb vegetables; herbs and spices; and stalk, stem, and leaf petiole vegetables crop groups harvested after bloom, and
- application of neonicotinoid pesticides to ornamental plants.

Commented [ws25]: Should there be a section on what i prohibited:

Areal application. Soil drenches. Tree injections.

Prohibited uses that could receive an exemption order and should be included in these BMPs include:
- outdoor application of neonics to any crop during bloom
- outdoor application of neonicotinoid pesticides to soybeans or any crop in the cereal grains crop group
- outdoor application of neonicotinoid pesticides to crops in the leafy vegetables; brassica; bulb vegetables; herbs and spices; and stalk, stem, and leaf petiole vegetables crop groups harvested after bloom, and
- application of neonicotinoid pesticides to ornamental plants.