

The Pesticide Applicator Report

News for Vermont's Pesticide Applicators from the
Vermont Agency of Agriculture, Food & Markets and UVM Extension



Spring 2020 Volume 21 – Issue 1

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The Buzz on Neonicotinoids in Vermont

Brooke Decker, Vermont Agency of Agriculture, Food & Markets

We hear the buzz words “Save the Bees” a lot these days. Unless you live under a rock, (nothing against rocks or cave dwelling) you’ve probably heard that 1/3 of our food supply relies on pollination from bees and that bee populations are in decline. Vermont is not isolated from this catastrophe, but it has taken important steps to help mitigate the issues.

Act 35, an act relating to the regulation of neonicotinoids, was signed into law in May 2019 and went into effect July 1, 2019. Sometimes referred to as the “Pollinator Protection Law”, this law has two important points. First, it restricts homeowner use of neonicotinoid (neonic) products commonly used outdoors, by reclassifying them as Class A – Vermont Restricted Use Pesticide. Second, it enhances pollinator protection, by creating a Pollinator Health Specialist position and bolsters legislation around the Apiary Program within the Agency of Agriculture Food and Markets.

What are neonicotinoids?

Developed in the late 1970’s, “New nicotine-like insecticides”, were developed to address developing agricultural pest resistance to organophosphate and carbamate based insecticides. Becoming widely used by the 1990’s, they are the most used insecticide in the world. In Vermont, Imidacloprid is the most commercially used neonic, used primarily in the turf and landscaping industries.

Part of neonic’s attractiveness to applicators is associated with their ease of use. Products can be applied as a drench, root collar injections, as a foliar spray or as a seed coating. Neonics, like nicotine, target the nervous system

(continued)

of the pest. As a systemic pesticide, the insecticide becomes incorporated throughout the plant. As insects feed on parts of the treated plant, they die.

Neonics are effective at controlling a wide range of insects in a wide variety of conditions. Most commonly, they are used to target sap-feeding insects like aphids, grub larvae in lawns or turf, and certain wood boring pests. As the most widely used insecticides in the world, neonics and their negative impacts on non-target species, like bees, are widely studied.

Currently, the EPA is reviewing the registration of several neonicotinoid pesticides. Public commentary is open until April 3, 2020. Comments can be submitted through the Regulations.gov website with the reference to Docket no. EPA-HQ-OPP-2012-0329

More about Act 35 two main points

As noted earlier, Act 35 classifies neonics as Class A, Restricted Use Pesticides. Included in the restriction are products containing the active ingredient: imidacloprid, nithiazine, acetamiprid, clothianidon, dinotefuran, thiacloprid, and thiamethoxam. Exemptions to the law are as follows: 1) pet care products used for preventing, destroying, repelling, or mitigating fleas, mites, ticks, heartworms, or other insects or organisms; 2) personal care products used for preventing, destroying, repelling, or mitigating lice or bedbugs; 3) indoor pest control products used for preventing, destroying, repelling, or mitigating insects indoors; or 4) treated article seed

The Agency has increased inspections of Vermont marketplaces to ensure compliance with this new requirement. If neonicotinoid-containing products are found in a Class B or C Dealer outlet, the outlet and dealer may be subject to enforcement actions, including monetary penalties.

All of the active ingredients listed above, are listed as moderately toxic to bees or highly toxic to bees. Be sure to read the entire label and follow the instructions noted there.

Pollinator Protection

Along with limiting the use of some insecticides that are toxic to bees, Act 35 addresses some other issues facing pollinators in Vermont and created a new position within the Agency -a Pollinator Health Specialist. Specifically addressed in the law, are issues facing our most familiar pollinator -the honey bee. By improving the legislation surrounding the Apiary Program, the Pollinator Health Specialist will have increased capacity to focus on hive inspections, education and outreach around mitigating the pests and diseases that are severely affecting the honey bee today.

Registration is required for every honey bee colony in the state. This registration is not only necessary for the State to communicate with beekeepers regarding pests or diseases, but it also gives pesticide applicators a communication method to use with beekeepers prior to pesticide applications. This communication tool is essential in maintaining good relations between applicators and beekeepers in the State.

While a survey of Vermont native bees is ongoing, we likely have upwards of 250 species of bees in Vermont! As the Pollinator Health program develops, we will broaden the scope of our work to include issues like habitat loss and spread of disease, facing Vermont's native bee populations.

If you have any pollinator health questions, please contact:

Brooke.Decker@vermont.gov

802-272-6688

Pollinator Health Specialist, VAAFM

Pesticide Spill Prevention and Planning *Doug Johnstone, Vermont Agency of Agriculture, Food & Markets*

When accidents occur, they can negatively affect businesses by causing losses in revenue and customer base, as well as increased employee and capital expenses. Emergency preparedness plans should be designed and implemented with the goal of reducing and managing these types of business disruptions. The following three steps are intended to assist in formulating a preparedness plan

#1 Identify Pesticide Risks

- **Pesticide Storage** should be well ventilated, secured and locked, and only accessible to certified applicators and/or trained handlers directly involved in the pesticide application process, or other employees authorized by the company. There should be a well-maintained spill kit in the immediate proximity of the storage facility in order to safely and effectively respond to pesticide spills within the storage area. The chemical appropriate fire extinguishers should be positioned nearby, and weatherproof warning signs should be posted on the exterior of the facility to alert emergency responders of the presence of pesticides.
- **Pesticide Mixing and Loading** facilities should be a well ventilated, securely enclosed areas with an impervious surface to more easily contain and remediate any spills that may occur during the mixing and loading process. Ideally the mixing and loading area would be adjacent to the storage facility so that the spill kit and other safety apparatus would be equally accessible to both areas. Outdoor or remote mixing and loading areas should identify potential surface and groundwater risks and consider site rotation to minimize potential contamination.
- **Pesticide Transport and Disposal** pose a significant risk when improperly performed.

All pesticides should only be transported in trucks where the passenger area is physically separated from the cargo area. Transported pesticides and application equipment should be secured to prevent spillage, as well as access by unauthorized persons. The disposal of pesticide rinsates and spilled materials must occur according to the Vermont Pesticide Regulations.

#2 Risk Management Plan (Emergency Action Plan) After identifying pesticide risks, it is important to develop a risk management plan. Include inventory lists, checklists, records and even photographs to assist in the description of the way each risk is managed.

- Describe the location and design of the pesticide storage area facility, including how it is secured from unauthorized access. Maintain accurate pesticide inventory records and keep copies of labels and Safety Data Sheets (SDS) for all pesticides in inventory. Identified in the plan should be a well-maintained spill kit containing: state and company emergency contact numbers; cleanup instructions; note-taking supplies; plugging materials; absorbent materials, such as booms, pillows or clays (speedy-dry or cat litter); shovel and broom; heavy duty detergent and/or bleach; heavy duty plastic bags, sheeting and water-tight containers; warning tape and signs; waterproof markers for labelling containers for disposal; and personal protective equipment (PPE) required by the most stringent pesticide label(s).
- Develop a standard operating procedure (SOP) or checklists outlining the proper steps taken during the mixing, loading and application processes. Include site specific instructions, such as when mixing in the field, about how mixing sites should be located away from sensitive areas to reduce surface and groundwater impacts, as well as steps to be taken when spills occur in any location. Describe mixing and loading equipment, such

as anti-siphon devices or air gaps, and include their routine maintenance schedules.

Incorporate any state specific posting and/or notification requirements in all SOP's or checklists and identify any formulation specific application instructions and restrictions.

- Develop an SOP for the proper transport and disposal of pesticides which includes: copies of labels and SDS's; the requirement of a separate and secure cargo compartment and/or the equipment necessary to secure bulk containers; a label-appropriate spill kit; the proper disposal or reuse of pesticide rinsates; the proper disposal of spilled materials, such as an authorized environmental hauler, or application to the labeled site where allowed; and proper handling of containers, such as triple rinsing all non-paper containers, and the proper disposal of all empty containers.
- Describe the roles of all those responding to the accident, such as containment, control and clean up; communication; accident support roles such as those providing assistance when needed; and proper disposal.

#3 Assign Roles & Review Procedures with Employees Once the Risk Management Plan has been completed the plan should be shared with the company.

- Determine which employees or personnel may have authorized access to the pesticides: in the storage facility; to be mixed, loaded and applied; or handled during transport and disposal. This would include applicators, handlers, maintenance and repair personnel, and possibly office staff.
- Establish a chain of command for efficient communication, implementation and liability of the SOP.
- Assign primary roles, as well as supplemental roles to account for absenteeism.
- Train all employees in their primary and supplemental roles and document annual trainings.

- Annually rehearse the risk management plan and periodically stage mock incidents to improve competency.
- In order to maintain the image of a trained professional, a risk management plan should include public relations guidelines for dealing with confrontational situations, such as but not limited to: adjacent landowners; dealing with the media after a high profile pesticide accident; and responding to opposition, either to your business, your activities or the compounds you use.

Pesticide Spill Management

Doug Johnstone, Vermont Agency of Agriculture, Food & Markets

The following steps should be taken when responding to a pesticide accident or spill, whether in the business facility or the field, and note that the Vermont Pesticide Regulations require ALL spills to be reported.

#1 Control the Spill Take immediate steps to stop or prevent further spillage or leakage, such as: righting a tipped container; plugging leaks in bulk or mini-bulk tanks; placing leaking or damaged containers in larger leakproof containers with proper labeling; or placing damaged bags or packets in larger bags with proper labeling.

#2 Contain the Spill Once the accident has been controlled, in the case of liquid compounds it is important to stop the spread using absorbent materials such as pillows, booms, clay materials or activated charcoals to create a dike or berm around the spilled pesticide to keep it from moving. In the case of solid or dry compounds use tarps, sweeping compounds or lightly mist the spilled area with water to contain the movement of dusts. Always remember to wear PPE and NEVER HOSE DOWN A SPILL!

#3 Report the Spill Contact the state lead agency or supporting agency once the spill has

been controlled and contained. Proper state lead agency and respective supporting agency in Vermont is either the:

**Vermont Agency of Agriculture,
Food & Markets 802-828-2431
(7:00 A.M. – 4:30 P.M.)**

or

**Vermont Department of Public Safety
800-641-5005 (24/7)**

Be prepared to notify the authorities about: what was spilled; the amount; the source of the spill; the concentration of the spilled material (formulation or dilution); the location, date and time of the spill; spill response steps taken; potential environmental impacts and/or health risks and whether or not medical attention was required. Using the note-taking supplies from the spill kit, be prepared for directions on how to: proceed with cleanup and decontamination; proper disposal of contaminated materials; and contact information for VAAFAM staff to conduct a follow-up investigation. VAAFAM Field Agents may also be contacted for notification. When in a state other than Vermont, contact the appropriate state lead agency for the correct emergency notification contact information.

#4 Clean up the Spill VAAFAM, VDPS, the Pesticide Manufacturer or SDS are sources for proper clean up instructions.

- **For liquid spills:** work a cleaning or neutralizing compound into the spill area with a coarse broom. Add more absorbent material and subsequently collect into a water-tight, properly labeled container until the spill site is sufficiently clean.
- **For dry spills:** collect material into a properly labeled heavy duty plastic bag until sufficiently clean.

- **For major spills in soil:** remove the top 2-4” and place in a properly labeled container.
- **For minor soil spills:** use activated charcoal at the rate of 3-10 pounds/1000 sq ft to adsorb and immobilize soil contaminants.
- **All labeled containers** should be disposed of according to state requirements. Avoid using sawdust with oxidizers.

#5 Dispose of Spill Materials If it is possible to recover contaminated materials such as clays used in a liquid spill, they may possibly be applied to the labeled site for disposal, provided label rates are followed. There are some absorbent compounds that are designed to dissolve in water and may be added to the spray tank to be applied to the labeled site, provided label rates are followed. Synthetic absorbent materials such as pillows and booms, and heavily contaminated soils may need to be disposed of in a certified landfill. Consult your state lead agency or the manufacturer for proper disposal.



New Beech Disease to Look Out

For Ann Hazelrigg, University of Vermont Extension

It seems as though our trees are under attack by insects and diseases on many fronts: Emerald ash borer, Asian long-horned beetle, Hemlock woolly adelgid and oak wilt are all problems Vermonters may have to contend with. We can now add another to the list. There is new threat to northeastern trees called beech leaf disease. The disease has been found on American, European and Oriental beech and was first noted in Ohio in 2012 and has since been found in several more counties in **Ohio, Pennsylvania and Ontario in addition to one county in New York by 2018.**

Symptoms start as dark interveinal banding in the foliage. The banding is often a common symptom of foliar nematodes because they are typically limited by leaf veins. These leaves can become thickened and leathery with curled edges as the season progresses. The symptoms move into the crown of the tree resulting in leaf drop, thinning crowns, poor vigor and over a matter of a few years, death.



Jim Chatfield, OSU Extension

An Asian foliar nematode (*Litylenchus crenatae*), has been associated with symptomatic trees. Nematodes are microscopic worms that can be beneficial or harmful to

plants, depending on the species. Most nematodes we are typically concerned with are soil dwelling, but there are species of nematodes that are foliar pathogens. The host range of foliar nematodes is wide with over 200 plants affected including strawberry, chrysanthemum, phlox, verbena, zinnia, carnation, impatiens, begonia, fern and African violet. This would be the first diagnosis of foliar nematodes on forest trees in North America.

There is still debate among researchers as to whether the nematode is the true pathogen. One research group has performed “Koch’s postulates” with the beech leaves. This technique is used by plant pathologists to verify the cause of a disease and involves extracting the pathogen from infected tissue and re-infecting a new healthy tree with the same pathogen to see if you get the same symptoms. The research group did get the same symptoms and are convinced the nematode is the causal agent. However, another research group macerated healthy and diseased beech leaves, found the genetic material for the nematode in both samples but also found three bacteria and three fungi only in the diseased leaves. Their theory is the nematode may be the delivery method, and the actual pathogen is the bacteria or fungi. What is not debatable however, is that whatever the pathogen is, it is moving quickly. Symptomatic trees were found this past fall in three towns in Connecticut and on Long Island. There is current research looking at the movement of the disease and considering birds or mites as the possible vector.

If you see any symptoms that resemble those of beech leaf disease, please contact the UVM Plant Diagnostic Clinic
<https://www.uvm.edu/extension/pdc>

Pesticide Record Keeping

*Doug Johnstone, Vermont Agency of
Agriculture, Food & Markets*

Although record keeping can often be completed on one simple form, there are 3 distinct types of records required to be produced and/or maintained under the Vermont Pesticide Regulations, but only the last 2 must be maintained for a period of no less than 2 years. These records will be discussed below, and they are referenced by (§) location in the Vermont Pesticide Regulations

The first type (Type One) of record keeping is known as an invoice or application statement that must be left by all certified commercial applicators to all persons for which remuneration (money) is exchanged at the time of application and can be found in (§IV) of the VT Pesticide Regulations. These records must include the following information:

(§IV, 2, j) Commercial Applications (except turf & landscape):

- 1) Pesticide Brand, Trade or Product name
- 2) Pesticide EPA registration number
- 3) Amount of each pesticide formulation used
- 4) Pest(s) treated for
- 5) Applicator name and signature

(§IV, 8, a) Turf or Landscape commercial, non-commercial applications made to residential or public non-residential sites:

- 1) At the time the service is being requested, the customer shall receive identification of proposed pesticide names and EPA registration numbers; proposed rates; and the availability of pesticide labels, Safety Data Sheets and/or EPA Fact Sheets.
- 2) At the beginning of each application the applicator shall post the following similar sign(s) of at least 4" x 5" sturdy, weather resistant materials at conspicuous points of entry (refer to VT Pesticide Regulations for complete requirements):

Immediately upon completion of each application, the customer shall receive a written statement containing:

- 1) Name, address and telephone number of facilities providing service
- 2) Pesticide applicator's name and certification number
- 3) Pesticide name, EPA registration number, amount of formulation used and pest(s) treated for
- 4) Post-application label safety precautions
- 5) Application date, time and location
- 6) Instructions that signs should remain in place for at least 24 hours

(§IV, 8, b) Golf course applications:

Please refer to the golf course permit for the specific course as per the VT Pesticide Regulations (§IV, 9).

(§IV, 8, c) Outdoor Commercial or Non-commercial applications made on fenced, private non-residential properties:

- 1) The written notice shall contain information as specified under (§IV, 8, a) including the specific location where each pesticide is applied.
- 2) The notice shall be posted for at least 24 hours.
- 3) Upon request, a label, SDS or EPA Fact Sheet for the pesticides used shall be made available to visitors.



The second type (Type Two) of record keeping requirement falls under (§V) of the Vermont Pesticide Regulations and pertains to the maintenance of routine records that must be maintained for no less than 2 years.

(§V, 1) Certified Private Applicators shall record the use of each Restricted Use Pesticide (RUP):

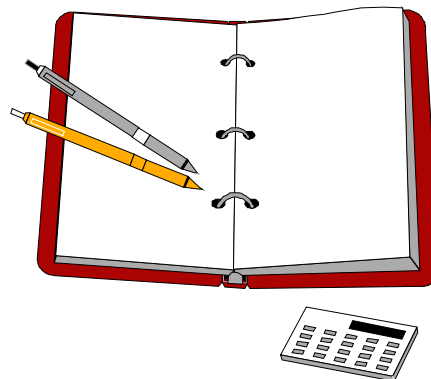
- 1) Pesticide Product, Brand or Trade name
- 2) EPA registration number
- 3) Amount of formulation used
- 4) Date of application
- 5) Location of application (farm or field name and town)
- 6) Pest(s) treated for

(§V, 2) Certified Commercial and Non-commercial Applicators shall record the use of all pesticides:

- 1) Pesticide Product, Brand or Trade name
- 2) EPA registration number
- 3) Amount of formulation used
- 4) Date of application
- 5) Location of application (name and town)
- 6) Pest(s) treated for

The third type (Type Three) of record keeping requirement only applies to the application of agricultural pesticides at agricultural establishments, in accordance with 40 CFR, Part 170, otherwise known as the Worker Protection Standard (WPS). This federal regulation requires that information about the use of agricultural pesticides shall be provided and/or be posted at a central location at the agricultural establishment for employees to view, be kept for 2 years after the REI expires, and shall contain the following information:

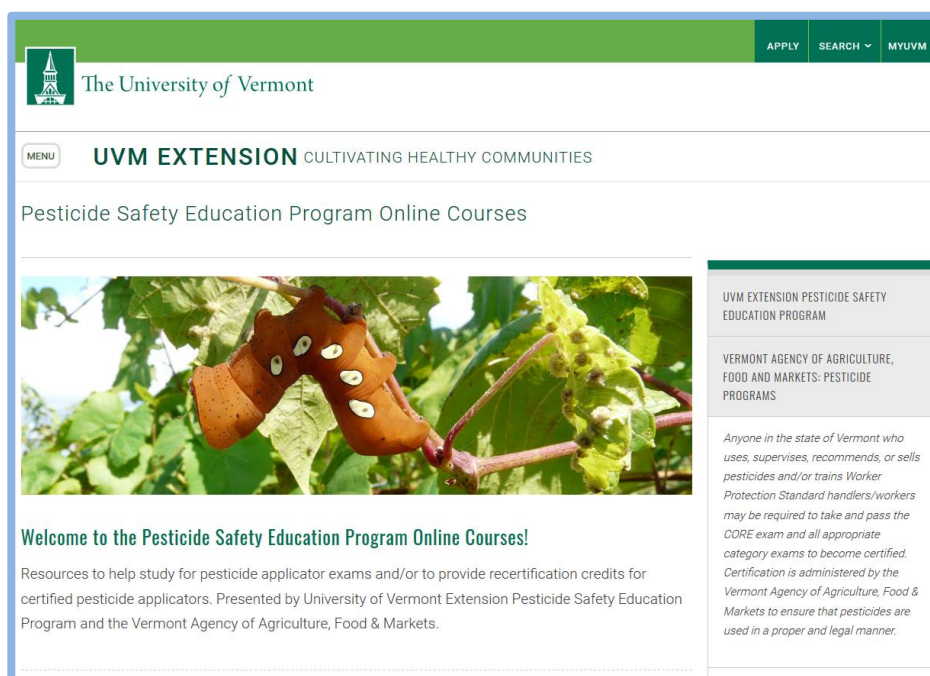
- 1) Name of the pesticide(s) applied
- 2) Active ingredient(s)
- 3) EPA registration number(s)
- 4) Restricted Entry Interval (REI) for the most stringent pesticide applied
- 5) Crop or site treated
- 6) Location and description of the treated area(s)
- 7) Date(s) and time(s) application started and ended



NEW! Training and Recertification Credit Online Courses

uvm.edu/extension/pseonline

- Vermont Pesticide Safety Education: CORE Manual Review (no credit)
- Vermont Pesticide Safety Education: CORE Manual Review, Unit #1 (1 credit)
- Vermont Pesticide Safety Education: CORE Manual Review, Unit #2 (1 credit)
- Vermont Pesticide Safety Education: CORE Manual Review, Unit #3 (1 credit)
- Vermont Pesticide Safety Education: CORE Manual Review, Unit #4 (1 credit)
- ***NEW*** Vermont Pesticide Education: Category 7A Manual Review (no credit)



The screenshot shows the UVM Extension website for the Pesticide Safety Education Program. The header includes the UVM logo and navigation links for 'APPLY', 'SEARCH', and 'MYUVM'. Below the header, the text reads 'UVM EXTENSION CULTIVATING HEALTHY COMMUNITIES' and 'Pesticide Safety Education Program Online Courses'. A central image shows two brown, spotted caterpillars on a green leaf. To the right, a sidebar contains the text: 'UVM EXTENSION PESTICIDE SAFETY EDUCATION PROGRAM', 'VERMONT AGENCY OF AGRICULTURE, FOOD AND MARKETS: PESTICIDE PROGRAMS', and a paragraph stating: 'Anyone in the state of Vermont who uses, supervises, recommends, or sells pesticides and/or trains Worker Protection Standard handlers/workers may be required to take and pass the CORE exam and all appropriate category exams to become certified. Certification is administered by the Vermont Agency of Agriculture, Food & Markets to ensure that pesticides are used in a proper and legal manner.'

Online courses are available through **eXtension Campus**, part of the national Cooperative Extension System. eXtension Campus requires you to create a free account to enroll in courses. Your participation in courses will be recorded and any recertification credits will be tied to your account. Upon completion of Vermont credit courses, a certificate will be granted that must be printed and mailed to the VAAFAM to receive recertification credit.



Helpful Contacts for Pesticide Applicators

Vermont Agency of Agriculture, Food & Markets

Field Agent NE	(802) 793-1628	Bethany.Creaser@vermont.gov
Field Agent SW	(802) 793-2167	Dominique.Golliot@vermont.gov
Field Agent CTR	(802) 477-3263	Steven.Cash@vermont.gov
Field Agent SE	(802) 793-2547	Doug.Johnstone@vermont.gov
Field Agent NW Golf Course Permit Coordinator	(802) 318-1383	Matthew.Wood@vermont.gov
Certification & Training Toxicologist	(802) 828-3479	Anne.Macmillan@vermont.gov
Pollinator Health Specialist	(802) 272-6688	Brooke.Decker@vermont.gov
Entomologist	(802) 279-2212	Judy.Rosovsky@vermont.gov
Groundwater Monitoring Program	(802) 828-3473	Patti.Casey@vermont.gov
Food Safety Inspector	(802) 828-2433	Diego.Tucker@vermont.gov
Agrichemical Research & Policy	(802) 917-2073	Erica.Cummings@vermont.gov
Agrichemical Section Chief	(802) 828-6417	Linda.Boccuzzo@vermont.gov
Director	(802) 828-6531	Cary.Giguere@vermont.gov

University of Vermont Extension

Pesticide Safety Education Program	(802) 656-0475	Sarah.Kingsley@uvm.edu
Plant Diagnostic Clinic Pesticide Safety Education Program	(802) 656-0493	Ann.Hazelrigg@uvm.edu
Vegetable & Berry	(802) 257-7967 x303	Vernon.Grubinger@uvm.edu
Entomology	(802) 656-5440	Margaret.Skinner@uvm.edu
Field Crops & Nutrient Management	(802) 388-4969 x332	Jeff.Carter@uvm.edu
Agronomy Outreach Specialist	(802) 751-8307 x356	Laura.O.Johnson@uvm.edu
Agronomy	(802) 524-6501 x437	Heather.Darby@uvm.edu

Home Study Quiz 1 – Neonicotinoids in Vermont & Pesticide Record Keeping

(Please keep answers brief; use additional paper as needed.)

1. **Neonicotinoid pesticides are widely used because of their low toxicity to non-target insects.** True False (circle one)
2. **Products containing imidacloprid are non-toxic to bees?** True False (circle one)
3. **Registration of Honey bee colonies is required by law?** True False (circle one)
4. **Communication by applicators to beekeepers within 3 miles of a pesticide application is required by Vermont State law.** True False (circle one)
5. **What are the 5 pieces of information required by “non-turf” applications at the time of application?**
6. **What are the 6 routine record keeping requirements required by all certified applicators under §V of the VT Pesticide Regulations?**
7. **Do private applicators need to record all applications if they are an agricultural establishment according to WPS?**
8. **What is the size of the sign that must be posted at all conspicuous points of entry prior to all turf and landscape applications? What is the minimum time that the sign must be displayed?**
9. **Is there a difference between the Pesticide Product, Brand or Trade name?**
10. **According to the VT Pesticide Regulations, which records must be kept for at least 2 years?**
(circle one)

Type One Type Three Types Two and Three All of the above

Mail the completed quiz to receive one (1) pesticide recertification credit.

The following information is required.

Name:		
Certificate #:		Please check: <input type="checkbox"/> Commercial <input type="checkbox"/> Private <input type="checkbox"/> Non-Commercial <input type="checkbox"/> Government
Street Address:		
City/State/Zip		
Company/Farm:		
Signature:	Date:	
Email address (optional):		
Mail to:	Vermont Agency of Agriculture, Food & Markets Attn: Anne Macmillan 116 State Street Montpelier, VT 05620-2901	

Did you know?

- The UVM Extension Master Gardener Helpline volunteers serve **HOMEOWNERS** in Vermont to answer gardening questions, providing science based information about home horticulture issues.

UVM Master Gardener Helpline
(802) 656-5421
uvm.edu/extension/mastergardener/helpline

Home Study Quiz 2 – Pesticide Spill Prevention and Planning & Pesticide Spill Management *(Please keep answers brief; use additional paper as needed.)*

- 1. What are the 3 primary components of Pesticide Spill Prevention & Planning?**
- 2. Briefly name and describe the 5 steps of Pesticide Spill Management.**
- 3. What are the 3 primary risks in a Pesticide Management Plan?**
- 4. Name 6 essential components of a Pesticide Spill Kit.**
- 5. What is the minimum amount of spilled pesticide that must be reported?**
- 6. What should NEVER be done to a pesticide spill?**
- 7. What, if any PPE should be included in a Pesticide Spill Kit?**
- 8. Describe how to properly clean up a liquid pesticide spill.**
- 9. Although it was not mentioned, what is probably the most cost-effective absorbent material to dispose of?**

Mail the completed quiz to receive one (1) pesticide recertification credit.

The following information is required.

Name:		
Certificate #:		Please check: <input type="checkbox"/> Commercial <input type="checkbox"/> Private <input type="checkbox"/> Non-Commercial <input type="checkbox"/> Government
Street Address:		
City/State/Zip		
Company/Farm:		
Signature:	Date:	
Email address (optional):		
Mail to:	Vermont Agency of Agriculture, Food & Markets Attn: Anne Macmillan 116 State Street Montpelier, VT 05620-2901	

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Home Study Quiz 3 – Beech Leaf Disease, and Recordkeeping (Please keep answers brief; use additional paper as needed.)

- 1) Name 5 insects and/or diseases that Vermont trees may have to contend with.
- 2) What is often a common symptom of foliar nematodes?
- 3) What is a nematode?
- 4) Briefly describe “Koch’s postulates.”
- 5) Name 3 potential pathogens of Beech Leaf Disease.
- 6) If you found what you suspect to be a diseased plant, what entity would you contact for possible diagnosis?
- 7) Name 3 US states where Beech Leaf Disease has been found.
- 8) What is an RUP?
- 9) What is an SDS?
- 10) Under §V of the Vermont Pesticide Regulations, which applications must Private Applicators record and maintain for at least 2 years?
- 11) Where must information about agricultural pesticide applications be posted?

Mail the completed quiz to receive one (1) pesticide recertification credit.

The following information is required.

Name:		
Certificate #:		Please check: <input type="checkbox"/> Commercial <input type="checkbox"/> Private <input type="checkbox"/> Non-Commercial <input type="checkbox"/> Government
Street Address:		
City/State/Zip		
Company/Farm:		
Signature:	Date:	
Email address (optional):		
Mail to:	Vermont Agency of Agriculture, Food & Markets Attn: Anne Macmillan 116 State Street Montpelier, VT 05620-2901	

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