

The Pesticide Applicator Report

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



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The Emerald Ash Borer, *Agrilus plenipennis*, in Vermont: Tree Treatment

Judy Rosovsky, Vermont Agency of Agriculture

On February 20th 2018 a highly credible report of emerald ash borer was received through the state's vtinvasives.org website. State resources were immediately mobilized. A specimen was collected, and the USDA confirmed the insect following week. This was devastating news for Vermont's forests and ash tree owners.



Emerald ash borer is a highly destructive invasive pest that originated in Asia and was first detected in the US in Detroit, Michigan in 2002. It kills all ash species that occur in the US and has been found in 33 states. Vermont is the 32nd state. It was also just detected in Maine (#33) this May. To date, it has been identified in several towns in Central Vermont.

Since February, the Vermont Agency of Agriculture has been closely cooperating with the Department of Forests, Parks and Recreation and with the local office of the USDA Animal Plant Health Inspection Service Plant Protection and Quarantine (APHIS PPQ) to implement a statewide quarantine in Vermont, and to develop guidelines for slowing the spread of this insect pest and to advise interested parties on the known infested areas and treatment options. It is expected that almost all untreated ash trees will succumb to the pest. Knowing how devastating the pest is to ash trees, the State is recommending that homeowners in an infested area, consult with professional arborists to evaluate whether an ash tree is a good candidate for treatment, and if so, to hire a certified pesticide applicator to treat.

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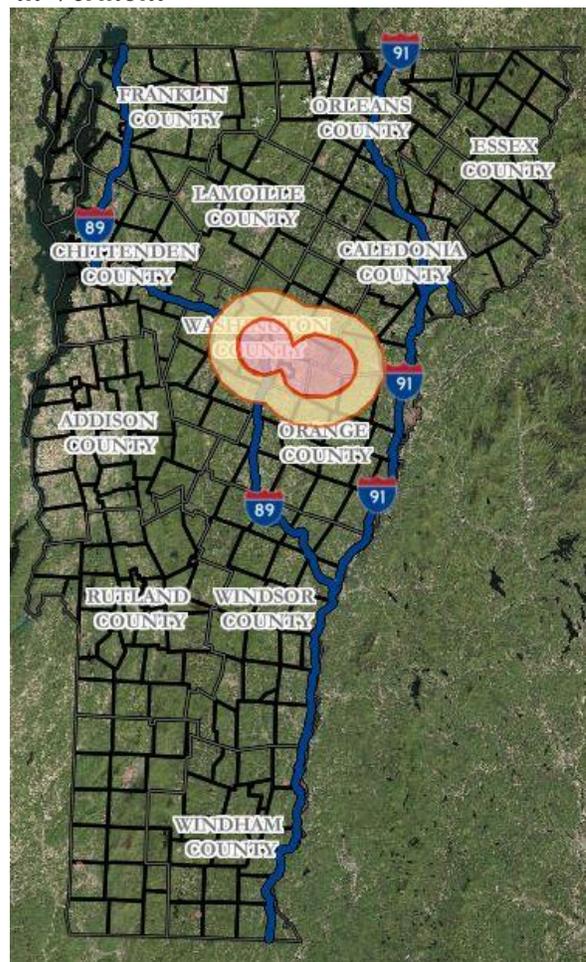
The State is discouraging landowners from treating trees themselves, as the tree may not be a candidate for treatment and DIY products have non-target impacts. A certified applicator may choose any labeled and registered product for use, however based on previous work in Midwest states, emamectin benzoate and azadirachtin have been recommended in certain situations. Emamectin benzoate lasts longer than other products and can be applied every other year. It is generally more effective for mature, large ash trees. Azadirachtin is effective for two years when populations are low but must be injected yearly when pest populations are high. The State is recommending injection applications to minimize potential for off-target movement.

The State is only recommending that high value ash in (or very, very near) the infested area be monitored and treated because of the long-term commitment and cost of treating ash trees for emerald ash borer. However, all **homeowners** are being told to consult with professionals to develop a plan for the ash trees that are on their property, even if they are outside the known infested areas

Updated infested area maps - as well as state guidance for slowing the spread of the pest and more about the insect itself--can be found on <https://www.vtinvasives.org/>. Please note that the infested area will continue to increase as new infested locations are found, so check frequently. Also, if you think you have seen an emerald ash borer, your sighting can be reported there as well.

Please bear in mind that while there is a statewide quarantine in effect, which allows for the transport of ash wood throughout the State, the Agency of Agriculture retains the authority to take enforcement action for anyone who knowingly transports the pest.

Emerald Ash Borer (EAB) Infested Area in Vermont



Check <https://www.vtinvasives.org/> frequently for:

- Information on the pest, ash trees and updates on identified infested areas
- Guidelines for slowing the spread of the insect and recommendations for homeowners
- Reporting a sighting of an invasive insect pest

The New Worker Protection Standard

Doug Johnstone, Vermont Agency of Agriculture

The Worker Protection Standard (WPS) is a federal regulation originally issued by the Environmental Protection Agency (EPA) in 1992 but was recently revised in 2015 and supersedes previous versions. The WPS was recently revised to strengthen the previous rule to better protect workers and handlers from pesticide related occupational exposures, as well as provide protections comparable to those provided in other industries.

The WPS is intended to reduce the risks of illness or injury to workers and handlers resulting from occupational exposures to pesticides used in the production of agricultural plants. Agricultural plants are produced on agricultural establishments, such as farms, forests, nurseries and enclosed space production facilities like greenhouses. The WPS applies to all agricultural establishments that use WPS-labeled pesticides in the production of agricultural plants. An AGRICULTURAL USE REQUIREMENTS box identical to the one below will be included on every WPS-labeled pesticide.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry intervals. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE that is required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil or water, is coveralls over long-sleeved shirt and long pants, socks and shoes and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride and protective eyewear.

Agricultural establishments may hire commercial pesticide handlers to apply pesticides, they may hire their own workers and handlers, or any combination.

A worker is anyone who is employed, including self-employed, in exchange for a salary, wages or other monetary compensation and is performing tasks directly related to the production of agricultural plants, such as:

- weeding
- replanting
- pruning
- watering or harvesting

A handler is anyone who is employed, including self-employed, in exchange for a salary, wages or other monetary compensation by an agricultural establishment or a commercial pesticide handling establishment that uses pesticides in the production of agricultural plants. Handler tasks include, but are not limited to:

- mixing/loading
- applying or disposing of pesticides
- any handling of opened containers that have not yet been cleaned
- flagging
- repairs or adjustments to application equipment that may contain pesticides or pesticide residues
- any application assistance such as incorporation or dipping of plant cuttings into registered pesticides
- entering treated areas post application for label required ventilation purposes
- performing crop advisor tasks during an application, a restricted-entry interval (REI) or before ventilation criteria have been met



The basic principles of the WPS are to inform, protect and mitigate. Inform employees about exposures to pesticides through safety training and information, access to application information and safety data sheets (SDS), notification about treated areas and information exchange between commercial handlers and agricultural employers. Protect employees by excluding workers from treated areas, application exclusion zones (AEZ), treated areas under a restricted entry interval (REI), ensure handlers and early-entry workers be at least 18 years old, provide and maintain personal protective equipment (PPE), monitor handlers and protect early-entry workers. Mitigate pesticide exposures by supplying decontamination supplies, including eyewash water and provide emergency assistance.

The most significant change of the new WPS is the documentation¹, training and evaluation required for fit-testing and wearing of appropriate respirators. When a respirator is required, handlers must annually:

- Receive a medical evaluation (potentially valid for up to 3 years)
- Be trained in proper respirator use
- Be fit-tested for the appropriate respirator as required by each label

¹ Documentation must be kept for two (2) years

It is the responsibility of the employer to ensure the protections required by the WPS.

These include:

- **Anti-Retaliation** – Employers must not retaliate against workers or handlers attempting to comply with the WPS.
- **Minimum Age** – Early entry workers and handlers must be at least 18 years old.
- **Pesticide Safety Information** – Employers may need to display a WPS safety poster, application records and SDS for pesticides used for at least 30 days after the application in a manner that is unrestricted to the workers and handlers.
- **Pesticide Safety Training** – Workers and handlers must be trained every 12 months, and prior to entering a treated area or performing any handler duties. Trainers must be certified applicators and must follow the training criteria detailed in the How To Comply (HTC) manual.
- **Decontamination Supplies** – Decontamination supplies, which include a sufficient supply of water as detailed in the HTC, single use towels and soap may need to be provided for workers within ¼ mile of a treated area and for handlers at each mixing and loading site and where PPE is removed.
- **Employer Information Exchange** – Before applications are made a commercial pesticide handler must provide specific information about the pending application to the operator of an agricultural establishment. The operator may also need to provide information about treated areas to the commercial pesticide handler.
- **Emergency Assistance** – If a worker or handler is exposed to a pesticide and requires emergency assistance, employers must make transportation available to a

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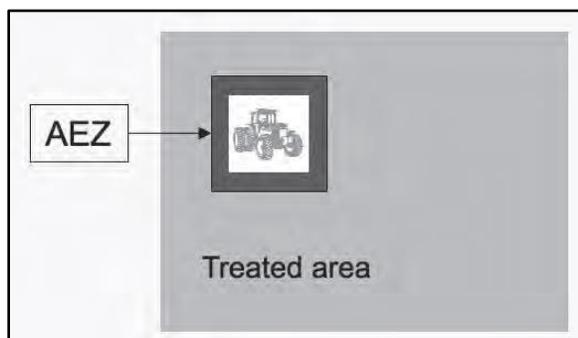
medical facility and provide specific pesticide information to the medical personnel as detailed in the HTC.

- Supervisors and Contractors – Employers must provide information to supervisors and labor contractors to ensure compliance with the WPS, including the tasks to be performed and the information they must provide to the workers and handlers.

In addition to these duties Worker Employers must also keep all employees other than properly trained and equipped handlers out of the application area until the REI has expired. Worker Employers must notify workers about all pesticide applications and treated areas under an REI either orally or by posting warning signs, or both depending on label requirements.

Handler employers' responsibilities include:

- Application Restriction & Monitoring – Require training for handlers that enter treated areas and AEZ. Specific communication to the handler is required for the use of specific pesticides, as well as applications in enclosed areas (e.g., greenhouses).



- Specific Instructions for Handlers – Provide access to product labeling and detailed labeling instructions prior to pesticide application to all handlers.
- Equipment Safety – Allow only properly trained handlers to clean, repair or adjust

application equipment. Application equipment must be inspected before each use.

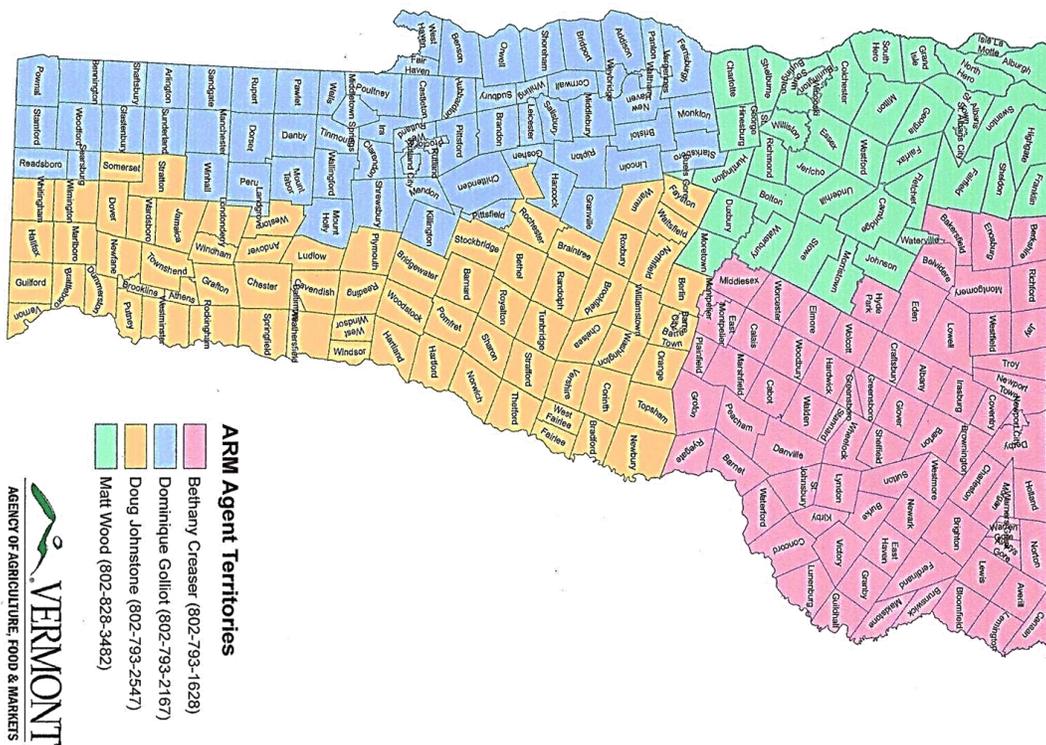
- Personal Protective Equipment (PPE) & Safety– Provide handlers with PPE as required by the product label. Standard attire of the WPS, shirts, pants, shoes and socks do not need to be provided by the employer.
- Protect against heat stress and provide a pesticide-free area to ensure:
 - Storage of personal clothing not in use;
 - Proper training regarding donning and doffing of required PPE;
 - PPE must not be taken home.
- Care of PPE – Care for all label-required PPE as detailed in the HTC, including inspection, proper cleaning and storage of reusable PPE, along with replacement of disposable PPE.
- Replacing Respirator Purifying Elements – Maintain and replace air purifying respirators when:
 - Breathing becomes difficult;
 - Filter is damaged;
 - Required by respirator or label;
 - No more than 8 hours of use, in absence of contrary label directives;
 - Noticeable odor/taste/irritant;
 - Required by pesticide or respirator label (whichever is less);
 - Excessive breathing resistance;
 - No more than 8 hours of use, in absence of contrary label directives.
- Disposal of PPE – Must render contaminated PPE unusable when applying products that display the signal word DANGER or WARNING and discarded according to state regulations.

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- Instructions for People Who Clean PPE – The handler employer must inform people who clean or launder PPE:
 - That PPE may be contaminated with pesticides, as well as the effects of potential exposures
 - How to protect themselves, correctly clean PPE, and properly decontaminate after

The revised WPS is now in effect and impacts ALL agricultural establishments, whether conventional or organic.

For compliance assistance contact Anne Macmillan @ 802-828-3479, or your local Ag Resource Management Specialist (see map).



See also: *Helpful Contacts for Pesticide Applicators* page

Safe Storage of Pesticides

*Ann Hazelrigg, UVM Extension
Pesticide Safety Education Program*

As a pesticide applicator, the goal is to plan and purchase enough pesticide to be used within the current growing season and avoid overwinter storage. However, in spite of the best plans and intentions, we often have pesticides that need to be stored until the following growing season. Proper pesticide storage along with keeping up to date pesticide inventory records can help increase the shelf life of your pesticides and help you plan purchases for the following year. Whether you have a locked storage cabinet or a dedicated structure, proper pesticide storage can protect human and animal health, safeguard water sources, protect from unauthorized access to hazardous materials and minimize economic loss. In the case of a spill or fire, having fewer stored pesticides can reduce damaging impacts.

The label on each pesticide will give you the requirements for storage for that product.

Material Safety Data Sheets (MSDS) provide additional information on the potential health, fire, reactivity and environmental hazards of the pesticide. Labels and Material Safety Data Sheets for most pesticides are available on-line at <http://www.cdms.net> and <http://www.greenbook.net>.

There are several points to consider when choosing where to locate a pesticide storage area. Whether it is in a locked cabinet, an area of the barn or in a separate shed, one of the most important considerations is to store all pesticides out of the reach of children and pets. A national study by the EPA revealed that almost one-half of surveyed households with children under the age of 5 had at least one pesticide stored within their reach. Even if you do not have children, visitors may, so always keep pesticides locked. The site should be in an area where flooding is unlikely and away and downhill from sensitive areas such as wells, ponds, homes or play areas.

Keep dry pesticides on pallets where there is no chance of contact with water or damp floors. Pesticide containers should be stored with the label in plain sight and rigid containers should always be set in an upright position so they cannot spill.

A pesticide storage area should be used only for pesticides and pesticide equipment. Never store or use food, drinks, eating utensils, tobacco, or personal protective equipment in the storage or loading/mixing area. Feeds, fertilizers, potting mixes, bulbs, medical supplies and seeds should never be stored with or near pesticides, especially herbicides. Some herbicides can vaporize and contaminate other pesticides or products that are close by. When the contaminated pesticide or product is used, the herbicide vapors in it could injure or kill crops and sensitive plants. All highly toxic pesticides should be stored together in a special area.

Always store pesticides in their original containers with the label, which lists directions for use, ingredients, and first aid steps in case of accidental poisoning. There have been several poisonings where pesticides have been transferred to other containers without the end user's knowledge. The most common accidental oral exposure occurs when a pesticide is taken from its original container and put into an unlabeled bottle, jar, or food container. A pesticide stored in a food container can be especially inviting to a child. If you are unable to identify the contents of a container, or if you can't tell how old the contents are, follow the label for safe disposal.

Check pesticide containers often for corrosion, leaks, loose caps, or punctures and correct any dangerous conditions immediately. If containers are damaged, however, you should put the pesticide in a sound and suitable larger container which can be sealed and labeled. Affix the label from the damaged container to the new

container. Be sure to wear gloves and other protective equipment when working with potentially damaged containers.

Avoid temperature extremes. Store flammable liquids far away from an ignition source such as a furnace, car, grill, or lawn mower. Glass and metal containers of liquid pesticides should be stored away from sun exposure or near other sources of heat. Store pesticides at temperatures above freezing or as directed on the label. Do not store liquid pesticides where the temperatures can fall below 40 degrees Fahrenheit or go above 100 degrees Fahrenheit. It is important to protect sensitive pesticides from freezing since this may destroy the usefulness of some pesticide products. Freezing may also cause liquid pesticides to break their containers, resulting in leaks. Heat will cause the liquid to expand so that the contents will be under pressure. Some formulations will catch on fire if they get too hot, while others lose their strength and break down when they are exposed to heat while others will vaporize and become a health hazard.

Avoid accidents but be prepared for a pesticide spill. Hopefully this never happens in your storage area but it is best to always be prepared and have the tools necessary to contain and dispose of a spilled pesticide. If a spilled pesticide touches skin, wash it off immediately and have the person move out of the storage area, wash thoroughly, change clothes, and see a doctor if necessary. If the spill is a liquid, throw activated charcoal, absorptive clay, vermiculite,

pet litter, or sawdust over the entire spill. Use enough to soak up most of the liquid. Then sweep or shovel it into a container or drum. If the spill is a dust, granular, or powder, sweep or shovel it directly into a container. Sweeping compound can be useful when picking up spills of dry pesticides. Next cover the spill area with a decontamination agent recommended for that particular pesticide. The manufacturer or your supplier may have to be consulted. Hydrated lime and high pH commercial detergents are often recommended. Repeat this procedure several times. Rinse the whole area with plenty of water to wash away any remaining pesticide. Collect the rinse water and hold it for proper disposal. Check your storage area carefully to see if any other pesticides were contaminated by the spill. If so, do not take a chance on using them dispose of them as well. When you are all finished, seal the container tightly and store for disposal.

Adapted From:

Purdue Pesticide Program PPP-26
Pesticides and their proper storage
<https://www.extension.purdue.edu/extmedia/ppp/ppp-26.pdf>

Cornell Core Module #22 Pesticide Education and Safety Program
<http://psep.cce.cornell.edu/Tutorials/core-tutorial/module22/index.aspx#22-2>

Pesticide Storage Checklist

Safety is the key element in proper pesticide storage. Make corrections in your storage facility if you answer no for any of the following statements:

General Information

- Clean, neat pesticide storage site
- Current, on-site pesticide inventory
- Posted emergency phone numbers
- Labels and MSDS on file
- Accurate storage inspection log maintained

Pesticide Containers

- Containers marked with purchase date (use oldest first)
- Insecticides, herbicides, and fungicides segregated
- Pesticides stored in original containers
- Labels legible and attached to containers
- Container caps tightly closed
- No reused pesticide containers present
- Pesticides stored off floor and low to ground
- Dry formulations stored on pallets
- Feeds stored separately from pesticides
- Used containers rinsed and punctured
- Rinsed and unrinsed containers separated

Spills and Disposal

- Storage area free of spills or leaks
- Shovel and absorbent materials
- Floor drains sealed (if present)

Safety Information

- No smoking signs posted
- Safety equipment separated from pesticides
- Fire extinguisher in good working order
- Storage room locked
- Storage room posted: Pesticides. Keep Out!
- Storage site well-lit and ventilated

Checklist courtesy of Purdue Pesticide Programs / Purdue University Cooperative Extension Service

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 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
Agrichemical & Plant Industry Director	(802) 828-6531	Cary.Giguere@vermont.gov
Agrichemical Research & Policy Specialist	(802) 828-6417	Linda.Boccuzzo@vermont.gov
Groundwater Monitoring Program Manager	(802) 522-6858	Patti.Casey@vermont.gov
Entomologist	(802) 828-1319	Judy.Rosovsky@vermont.gov

University of Vermont Extension

Pesticide Safety Education Program	(802) 656-0475	Sarah.Kingsley@uvm.edu
Pesticide Safety Education Program Plant Diagnostic Clinic	(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	(802) 656-0478	Sid.Bosworth@uvm.edu
Agronomy	(802) 524-6501 x437	Heather.Darby@uvm.edu

Home Study Quiz 1 – WPS Revisions

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

- 1. What was the primary purpose of the 2015 revisions to the WPS?**
- 2. What is an REI?**
- 3. Are landscapers required to follow the WPS?**
- 4. A person transporting opened containers of pesticides is what type of WPS employee?**
- 5. Name the three basic principles of the WPS and give a brief description of each.**
- 6. What three requirements must a pesticide handler using a pesticide requiring a respirator perform annually to follow the WPS?**
- 7. What is the AEZ?**
- 8. List five instances during which a respirator must be either maintained or replaced.**

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

Vermont Agency of Agriculture, Food & Markets
Attn: Anne Macmillan
116 State Street
Montpelier, VT 05620-2901

Home Study Quiz 2 – Pesticide Storage

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

- 1. How should you treat materials that absorb a spill?**
- 2. Describe how you would clean up a liquid pesticide spill.**
- 3. List several things to consider when choosing a storage site.**
- 4. What are the main problems with runoff water from your storage area?**
- 5. Why is the storage area not a good place to keep your lunch, tobacco, and street clothes while you are on the job?**
- 6. What should you do when you discover that one of your pesticide containers is corroding?**
- 7. If a friend asks for a little of your tank mix and hands you an empty glass jar, is it all right for you to give him some as long as you warn him carefully?**
- 8. Why should all pesticides be stored in their original container whenever possible?**
- 9. Why not wash off your pesticide equipment in your backyard?**
- 10. Why should you have MSDS sheets on hand for each pesticide in your storage?**
- 11. Why wear protective clothes while storing pesticides, containers and equipment?**
- 12. Why seal floor drains if present in pesticide storage areas??**

Pesticide Applicator Report

Vermont Agency of Agriculture, Food & Markets
Agriculture Resource Management Division
116 State Street
Montpelier, VT 05620-2901

«Name»
«Address1»
«Address2»
«City», «StateCode» «ZipCode»

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

Vermont Agency of Agriculture, Food & Markets
Attn: Anne Macmillan
116 State Street
Montpelier, VT 05620-2901