

The Pesticide Applicator

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



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Plant Health and Pest Management, Vermont Agency of Agriculture, Food & Markets

Mile-A-Minute Weed

In 2023, the state of Vermont officially confirmed the presence of mile-a-minute weed (*Persicaria perfoliata*) in Chittenden County, Vermont. The infestation was considered small and was limited to two specific areas. It is not known if the weed is present elsewhere in the state.

Mile-a-minute weed is a non-native barbed fast-growing annual vine never seen before in the state. It grows up to six inches per day creating dense mats that have the potential to block sunlight to other naturalized or cultivated plants, which may cause stress, weaken, and kill the smothered vegetation. This vine has triangular leaves and iridescent blue fruits, reproducing through seeds that can be viable up to six years, which are easily spread via animals, waterways and flooding, and even in the landscape and nursery trade through infested plant stock or poor sanitation practices.



*Mile-a-minute weed foliage (Persicaria perfoliata).
Photo by Judy Rosovsky*



Mile-a-minute weed fruits (*Persicaria perfoliata*).
Photo by Judy Rosovsky

Mile-a-minute weed poses a threat to native vegetation, young forest stands, natural areas, and agricultural industries such as nurseries, landscaping, and Christmas tree farms. It was introduced to the United States through contaminated nursery stock in the 1930s.

Management of mile-a-minute may include both mechanical and chemical control. If hand pulling the vines, it is best to do before the barbs harden and seed production begins, which happens in June through

October. Once pulled, vines can be left to dry in place. After seed production begins, then the vines can be pulled and all plant parts dried in place then burned or bagged and landfilled (least preferred method of disposal).

If using a chemical control method, in some situations, it may be difficult to only treat the weed and not impact desirable plants. If using an herbicide, choose one that is appropriate for the stage of plant development and always follow the label. In any management of an invasive plant wear appropriate personal protective equipment.

Pale Swallow-wort

In 2023, Vermont officials confirmed the discovery of the pale swallow-wort (*Vincetoxicum rossicum*) in Burlington, Vermont. Pale swallow-wort is considered a class A noxious weed, which “means any noxious weed is not native to the State, not currently known to occur in the State on the date of listing and poses a serious threat to the State.”

Generally, noxious weeds are non-native plants that are considered by the state to pose a threat to Vermont’s environment, agriculture, property, economy, or public health (according to Vermont’s Noxious Weed Quarantine https://agriculture.vermont.gov/sites/agriculture/files/documents/PHARM/Plant_Pest/NoxiousWeedsQuarantine.pdf). There are two species of swallow-wort on the Noxious Weed List: Pale swallow-wort, and a related species, black swallow-wort (*Vincetoxicum nigrum*), classified as a class B noxious weed which means “any noxious weed that is not native to the state, is of limited distribution statewide, and poses a serious threat to the State, or any other designated noxious weed being managed to reduce its occurrence and impact in the State,”



Pale swallow-wort (*Vincetoxicum rossicum*).
Photo by Judy Rosovsky

Please report any invasive plant sightings to:

AGR.planthealth@vermont.gov.

The plant itself has a vining habit, twisting around other nearby plants to heights of 4-6 feet. Its glossy, dark green leaves are lance shaped and have an opposite arrangement. Flowers are described as “pink to maroon”¹ or magenta². They make seed pods similar to milkweed, but light green, smooth, and pointed (~3-4in by 2-3 in wide). Just like milkweed, these pods split when mature

to release many tufted seeds that easily catch the wind and disperse great distances. It can be a challenge to tell pale from black swallow-wort. Pale tends to have lighter flowers, but the species have some over-lap in the color range. The surest tell is that pale swallow-wort flowers have tiny hairs, while black do not. Of course, it doesn’t hurt to take out any black swallow-wort you see while you’re at it!

Don’t let the plant’s pleasing colors and climbing habit fool you though- there’s a reason both species are on the Vermont Noxious Weed Quarantine list. Several reasons, actually. They are particularly nasty when it comes to crowding out native plants. Swallow-worts are shade tolerant, which allows them to crowd out native plants even in well-established habitats. They can release chemicals from their roots which stop other plants from growing, reducing their competition and making it even harder for other species to grow. Furthermore, they pose a danger to butterflies. Monarchs, which are known for laying eggs on milkweed (also in the Apocynaceae family) will lay eggs on swallow-wort. The caterpillars which hatch on *Vincetoxicum* do not survive. All of these factors combined make swallow-wort a major danger for Vermont ecosystems.

Controlling pale swallow-wort is no easy task. The only way to physically remove the plant is to completely remove all of its roots. This involves careful digging because swallow-wort sprouts back from root fragments- making this method impractical for large infestations. Small populations can be treated with the appropriate herbicide following label instructions or contact a pesticide company for assistance. Cutting can prevent seed formation, but only if timed right. Mowing when seed pods begin forming can rob the plant of its chance to put out seeds for the season. Any earlier, and the plant can re-sprout. Any later, and mowing can spread the plants by throwing mature seeds right into the wind, where they can fly for miles.³ Unfortunately, when seed pods are open it makes removal riskier. Late in the summer, it is best to hand cut any seed pods from the plant. Removal of just seed pods won’t completely stop the spread of the plant, but it can reduce the distance it travels by eliminating wind-borne dispersal. The cut plant materials can be placed in heavy duty plastic bags and tossed with regular garbage- composting may allow plants to spread through root fragments or seeds, and burning can aid seed dispersion! It’s highly recommended that a person wears gloves and long sleeves when handling the plant to avoid exposure to the plant’s sap.

When state officials first received reports of pale swallow-wort in Burlington, they hoped that the population would be confined to a small area, but after a survey it was found in multiple locations in

¹ https://nyis.info/invasive_species/swallow-wort/

² <https://www.agriculture.nh.gov/publications-forms/documents/swallow-wort.pdf>

³ https://nyis.info/invasive_species/swallow-wort/

⁴ <https://naturegroupie.org/story/pod-picking-day-removing-black-swallowwort-iconic-maine-trail>

Burlington and elsewhere. But it's not too late to respond. Communities banded together to persistently work on reducing the spread of similar invasives and have made a difference. The town of Ogunquit, Maine, has held "pod-picking days" for several years now to reduce the spread of the related black swallow-wort.⁴ While pulling is not generally considered a viable option for controlling a large population (even in a relatively small area, like Ogunquit's marginal strip), the event ends in removal of hundreds of pounds of swallow-wort seed pods. Years of consistent control by Ogunquit's community has likely prevented millions of new seeds from sprouting; their example has shown the power that the community has to control such invasive populations through coordinated and persistent effort.

Additional Information:

Mile-a-minute weed

- www.vtinvasives.org/invasive/mile-a-minute-vine

Pale swallow-wort

- https://www.youtube.com/watch?v=PpDL_6lWT3s
- <https://vtinvasives.org/news-events/news/new-invasive-plant-confirmed-burlington>

Did You Know? Helpful Tips [Return to Menu](#)

Bethany Creaser, Vermont Agency of Agriculture, Food & Markets

- **Pesticide credit slips and home quizzes can be sent in at any time during the year.**

The preferred method is to email them (pdf, photo, etc.) to agr.pest@vermont.gov. Or mail them to VAAFM, Attn: Bethany Creaser, 116 State Street, Montpelier, VT 05620.

- **You can look up what meetings you attended by logging into the VT PLANTS database.**

Visit <https://usaplants.vermont.gov/usaplants/SecurityLogin.aspx> and login to your account. Forgot your username? Email agr.pest@vermont.gov. New to VT PLANTS? Email agr.pest@vermont.gov and ask for registration information you will need to create an account. Once logged in, expand the 'Meetings' drop-down menu to view the meetings you have attended.

- **You can look up when your pesticide certification expires and how many credits you need to re-certify.**

Visit <https://usaplants.vermont.gov/usaplants/PesticideApplicator/ApplicatorExternalSearch.aspx>. In the certification ID section, input your pesticide certificate number (for example, your number is 123-4567 or P-4567, you will enter 4567) and your last name and hit search.

Include the county you are applying in throughout the year when recording your daily routine pesticide application records. This will help you sort your records at the end of the year to make filling out your annual use report easier.

Pre-Season Checklist

This year's spraying season is quickly approaching. Now is an excellent time to make sure you are ready. See the attached [Pre-Season Checklist](#) to help you with your spraying preparations.

Pesticide Use to Protect Water Quality [Return to Menu](#)

Doug Johnstone, Vermont Agency of Agriculture, Food & Markets

A recent Vermont Agency of Agriculture, Food & Markets (VAAF) *The Pesticide Applicator* newsletter discussed Pesticide Mix Water Quality which addressed the effects of issues such as pH, turbidity, and hardness on the effect and efficacy on a pesticide dilution as it relates to the treatment of a target pest. This article will address the use of pesticides to protect environmental water quality, namely surface and ground waters. Applicator training includes understanding the process of pesticide registration as required by the Environmental Protection Agency (EPA), especially the fact that the label is the law, not to mention following the requirements of the Vermont Pesticide Rule.

Most, if not all pesticide labels contain certain and similar language under the section commonly referred to as Environmental Hazards. As the Northeast CORE manual explains, pesticide labels might tell the user that they are hazardous to wildlife, or toxic to fish and other aquatic invertebrates. This is information that should be followed to protect the environment and can also help the applicator select the appropriate pesticide that is labeled for the intended site. Statements like *Do not apply when runoff is likely*, or *Do not apply directly to water or areas where surface water is present*, instruct the applicator on how to protect surface water or sensitive areas near surface water.

For example, many herbicides containing the active ingredient Atrazine do not allow mixing or loading within 50 feet of streams, rivers, lakes, reservoirs, or wells due to the potential detrimental effects of the active ingredient to organisms that inhabit perennial and intermittent surface waters. They also may prohibit use within 66 feet of points where surface water from fields enters streams or rivers. Another common prohibition is the restriction of applications within 200 feet around lakes or reservoirs, for the same reasons as noted above. Some herbicides containing Glyphosate, which may even be labeled for aquatic use, may warn of fish suffocation potentially resulting from oxygen depletion in treated waters occurring due to decomposing dead plant material. Those herbicides may instruct the applicator to contact the State or lead agency that regulates pesticides to determine whether an aquatic permit is needed. Despite being labeled for aquatic use, it is still another example of reasons why an applicator must read the label to ensure proper and safe use of a pesticide.

In Vermont, most pesticide applications made to waters of the state require an *Application for the use of Pesticides under an Aquatic Nuisance Control Permit* from the Vermont Department of Environmental Conservation (VDEC), Watershed Management Division. This allows the VDEC to assess potential risk to the nontarget environment, public health, along with weighing the public benefit, to name a few. VAAF requires that all aquatic pesticide applicators be certified in category 5 – Aquatic Pest Control. In fact, when visiting the VAAF website to procure the category 5 manual, there is an

Aquatic Control Nuisance Permits insert that should be downloaded to familiarize the applicator with State of Vermont requirements pertaining to pesticide use to surface waters.

The recently updated Vermont Pesticide Rule set new restrictions on applications near a groundwater source, or well. Section 5.02 (n) requires that all applicators and licensed companies maintain a minimum 50-foot buffer when applying a pesticide to soil or vegetation around any potable water source. That is superseded if the label requires a greater distance, or if the application is made on cropland or on utility rights-of-way. That section of the Pesticide Rule refers to table 11-1 of the Vermont Wastewater and Potable Water Supply Rules to determine the correct buffer distances for the latter two sites based upon well construction. Section 5.02 (o) of the Pesticide Rule requires at least a 100-foot buffer for public non-community drinking water sources, and a 200-foot buffer for all public community drinking water sources. It is imperative that the applicator follow the label and Vermont Pesticide Rules to ensure that surface and ground water is adequately protected.

In addition, VAAFM often recommends that applicators follow best management practices near water sources, such as maintaining safe buffer distances to limit the potential for drift or run off to non-target areas. Alternate methods of application, including basal bark, cut stump, or stem injection help to reduce the rate of pesticides applied, while reducing or even eliminating off target movement. Selecting the ideal formulation(s) with active ingredients that are less prone to leaching or run off are additional practices to protect surface and ground water.

A plethora of research, testing, and assessment is required by the EPA to gain pesticide registration, but despite being one of the most regulated groups of chemicals, pesticide use must comply with the label and state regulations to ensure public safety and the protection of our environment. It is essential that the applicator **read the label**, follow all instructions, and know the **state laws** that impact their applications in order to properly treat or mitigate a pest problem, all the while protecting the environment and all those that reside or visit this great state!



Back to Basics CORE Essentials:

Reading Labels to Compare Products [Return to Menu](#)

Sarah Kingsley-Richards, University of Vermont Extension Pesticide Safety Education Program

The label provided by the manufacturer contains critical information for comparing products. There may be multiple products with the same chemical active ingredient that will vary by name, formulation, inert ingredients, or manufacturer. When an active ingredient is no longer under patent or is licensed by the original manufacturer, generic products are added to the list of options. Different products may have different rules and regulations and allowable uses. Labels also change periodically as products contents or use instructions are updated.

Every pesticide product has its own unique label and **EPA Registration Number** used to track product applications for reporting purposes and in cases of poisoning, misuse, or liability claims. The **EPA Establishment Number** on the label identifies the facility where the product was produced. **Name and address of the manufacturer** will also be stated somewhere on the label, usually on the front or at the end.

Many product labels will feature a catchy **trade, brand, or product name** (example: Roundup PRO MAX) and logo tied to the original manufacturer patents. **Generic product names** and labels may look similar to the original branded product or will feature alternate brand names, the manufacturer, or the active ingredient more prominently on their labels (example: FarmWorks Glyphosate). Comparing products can get confusing when the same basic name is only varied slightly from one product to the next.

What is actually in the product is listed in the **Ingredient Statement** clearly at the front of the label. This is where you find the **Active Ingredient(s)** that are the chemicals doing the pesticide work. The active ingredient may be listed with an easily read common name and/or the full complex chemical name. **Inert Ingredients** are binders and fillers and other things to enhance the functionality of the product that are often proprietary to the manufacturer and are not listed out.

GROUP 1 HERBICIDE

Roundup PRO MAX[®]

Herbicide

The complete broad-spectrum postemergence professional herbicide for non-crop, industrial, turf and ornamental weed control. AVOID CONTACT OF HERBICIDE WITH FOLIAGE, STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION IS LIKELY TO RESULT.

Keep out of reach of children.
CAUTION!
Read precautions inside label.
Complete Directions for Use.
Not all products listed on this label are registered for use in California. Check the registration status of each product in California before using.
FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL FREE: 1-800-800AYER (1-800-800-2937)
IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT: 800 OR MOBILE: 1-800-334-7277

ACTIVE INGREDIENTS:
*Glyphosate, N-(phosphonomethyl)glycine, in the form of its potassium salt..... 40.2%
OTHER INGREDIENTS..... 59.8%
TOTAL..... 100.0%
*Contains 660 grams per liter or 5.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt. Equivalent to 540 grams per liter or 4.5 pounds per U.S. gallon of the acid equivalent.

EPA Reg. No. 534-570 EPA Est. 524-04-1

Packaged for:
BAYER CROPSOURCE LP
800 N. LINDSEY BLVD.
ST. LOUIS, MISSOURI 63103 USA
©2000 Bayer Group. All rights reserved.

GROUP 1 HERBICIDE

FARMWORKS

53.8% GLYPHOSATE

Read the entire label before using this product. Use only in accordance to label directions for use.

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY[®] CROPS), DESIRABLE PLANTS AND TREES BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

This product is a complete broad spectrum post emergence herbicide for weed control in many agricultural systems, agricultural crop, non-agricultural crop, pasture grasses, forage legumes and rangelands, Conservation Reserve Programs, grass seed or sod production, and Non-crop uses around the farmstead.

ACTIVE INGREDIENT:
*Glyphosate, N-(phosphonomethyl) glycolic acid, in the form of its isopropylamine salt..... 53.8%
OTHER INGREDIENTS..... 46.2%
TOTAL..... 100.0%
* Contains 640 grams per liter or 5.4 pounds per U.S. gallon of the active ingredient Glyphosate, in the form of its isopropylamine salt. Equivalent to 480 grams per liter or 4.0 pounds per U.S. gallon of the acid glyphosate.

EPA Reg. No. 84009-30 EPA Est. No. 084840-LA-001 RM050413N (02/01/01)

KEEP OUT OF REACH OF CHILDREN CAUTION
See inside label booklet for Directions for Use and additional Precautionary Statements.

Manufactured For:
Ragan and Massey, Inc.
101 Panchatouda Parkway
Ponchatoula, Louisiana 70454
(800) 264-5281
#FarmGardenMassey.com

7 437716 75237 8

NET CONTENTS: 2.5 GAL / 320 FL OZ / 9.46 L

Other label information for comparing products includes conditions that you must determine if you are able to meet to apply the product:

- **Use Classification:** for federally restricted use pesticides
- **Agricultural Use Requirement Statement:** for Worker Protection Standard compliance
- **Special Environmental Toxicity:** specific hazards to wildlife, bees, etc.
- **General Environmental Statements:** practices to avoid risk to water, bees, drift, etc.
- **Protective Clothing and Equipment:** minimum requirements for protecting applicators and handlers
- **Directions for Use:** application procedures that can be quite specific on rates, equipment, recommended tank mixes or additives, where and when to apply.
- **Storage and Disposal:** general directions, state and local laws may vary

For more information on a pesticide or its use, check with the manufacturer, dealers, salespersons, extension agents, and the state agency of agriculture.

Labels can be very brief or dozens of pages long. Because they are so complex, there are multiple online databases that catalog pesticide labels and make them available as pdfs. Two commonly used sites are <https://www.cdms.net/Label-Database> or <https://agrian.com/labelcenter/results.cfm?s>. These sites can be useful when considering or comparing products. Be aware that the online labels may not be entirely current but these do come in handy when researching, comparing, and selecting pesticides.

Always remember that the label is the law. Any use not on the label is prohibited and liable under law. No matter how long a label is, you are required to read and follow all of the instructions and warnings listed.

Generic Products

Generic products are a fast-growing sector of the pesticide market. Expiring patents, collaborative patents and licensing, and decrease in new active ingredient development have increased opportunities and demand for proven products. Nineteen active ingredient patents are expiring between 2023 and 2028: eleven fungicides, four herbicides, and four insecticides. The availability of generic products also plays a large role in developing countries by increasing manufacturing opportunities and agricultural yields.

Generic products contain the same active ingredients but do not contain the same proprietary inert ingredients as the original branded product, much like human drugs (e.g. Advil® vs. ibuprofen). There is no difference in the performance of the active ingredient, however variations in concentration, physical form, or durability may affect the amount of generic product required for the effect. The effective range of targeted pests may also differ between branded and generic formulas. Generic products must go through the same vigorous review and registration process as branded products.

Black-Legged Ticks in Vermont [Return to Menu](#)

Patti Casey, Vermont Agency of Agriculture, Food & Markets

A Brief History

Many of Vermont suburban and rural areas of development are situated adjacent to bigger areas of less disturbed land, such as agricultural fields, woodlands, and wetlands. All of these borders are essentially interfaces with at least a small bit of “wilderness” and if you are a rodent, your territory and needs are relatively small: a strip of tall grass, maybe a wood pile or rock wall, can be all you need to set up shop.

And why do rodents matter? Rodents are the first meal sought after by **Black-Legged Tick** larvae (aka “Deer Ticks,” *Ixodes scapularis*). Larvae are the first life stage after hatching out of the egg. Rodents are host to tick

larvae because, basically, rodents are what tick larvae can reach from their very lowly birthplace in the leaf litter. When ticks mature from larvae into nymphs, their second life stage, they are still likely to feed on a rodent (still pretty close to the ground and tiny, think poppy seed). They will also happily attach to anything at their level, so your ankles are on the menu. The final tick life stage, adult, is usually spent feeding on a larger mammal, such as a deer, fox, bear, raccoon, and, yes, us humans and our four-legged companions. Adult ticks climb onto higher grasses and brushy vegetation than do earlier tick life stages.

As tick larvae and nymphs feed on rodents, they are provided their first opportunity to acquire any pathogens the rodent may be harboring. For the most part, ticks are born “clean,” that is, not carrying pathogens. The White-Footed Mouse (*Peromyscus leucopus*) is largely responsible for the transmission of the pathogen that causes Lyme disease in the northeast (*Borrelia burgdorferi*). Other rodents such as red and gray squirrels are also reservoirs for many of the pathogens that cause illness in humans and pets. We see higher rates of pathogens in adult ticks than in nymphal ticks, as they’ve had more opportunities to acquire the pathogen through two feedings versus one.

White-Tailed Deer (*Odocoileus virginianus*), contrary to popular belief, do not carry the pathogen that causes Lyme disease. In fact, deer produce a compound in their blood that actually kills that pathogen in their bodies and protects the deer from contracting the illness. What deer do is provide a readily available host for adult Black-Legged Ticks. And there are a lot of deer in the northeast. Those fragmented land use areas mentioned earlier? It’s not only ticks that love them, most wildlife does, including deer. Deer love the landscaping and gardens around our homes, too, which brings them and their attendant load of ticks right into our yards and gardens.



Photo by Scott Bauer, USDA Agricultural Research Service, Bugwood.org #1316093

Issues with Tick Control

Large populations of Black-Legged Ticks in the northeast are a relatively recent occurrence. While there was probably a population of them living here in Vermont all along, the aforementioned changes in landscape and land use, suburbanization, and climate change, among other factors, have combined to create an environment in which ticks have expanded their numbers and territory. And with that expansion have spread the diseases they can carry and transmit, making them a public health concern and not just a nuisance.

There is currently no coordinated municipal or state tick control available except for some isolated public park treatments. Because ticks breed and inhabit small, patchy, microlocal areas in leaf litter that can be difficult to identify and define, focusing treatments on the actual areas they inhabit can be extremely challenging. There can be huge differences in numbers of ticks literally within a few yards, so an applicator could treat an area and achieve nothing. Even if an area can be correctly identified as harboring ticks, getting products with their current formulations into leaf litter can be very difficult. Essentially nothing is ready for *widespread* tick control, and much more surveillance and data are needed regionally and nationwide, in addition to pesticides and formulations being developed to reach ticks in the different environments of their different life stages. Any widespread tick control would invariably mean treating some private property as well as public lands, and there are many strong and potentially oppositional opinions on pesticide use among the many landowners and taxpayers. Tick control measures don't have that long history of developing gentler chemical formulations and there is more public concern over the use of the current treatments available.

Practice personal protection against tick bites:

- Cover up with long sleeves and pants, tuck pants into socks or wear gaiters
- Use an EPA-registered insect repellent or treated clothing
- Put clothing in a dryer on high for 15 minutes, shower to remove crawling ticks after being outdoors
- Do a daily tick check

Additional Information:

- <https://www.healthvermont.gov/disease-control/tick-bite-illnesses/prevent-tick-bites-tickborne-diseases>
- <https://www.epa.gov/insect-repellents/repellent-treated-clothing>

Neighboring states in New England and New York face the same challenges we do in Vermont, and we regularly share regional information on this issue. Currently less than 1% of public lands are being treated in the northeast. Private homeowners have the option of engaging the services of a certified pesticide applicator to treat for ticks on their own property, but this does not extend to include any large-scale tick control.

What We Can Achieve

- Public awareness is key. Education and training of municipal workers in the closing of public areas during high-risk tick times such as nymph season, or in areas with high disease prevalence in the tick population or simply high tick numbers (determined through surveillance efforts), can reduce human disease cases. Signage in parks, at trailheads, near schools and rec fields can all be helpful.
- When chemical treatment can take place, such as along edges of public parks or trails, targeting treatment where ticks and people intersect most frequently is efficient and efficacious. In our surveillance, we tend to find the most ticks at

- entrance and exit points to wooded trails and along brushy trail edges.
- Habitat modification, such as widening trails, mulching along trails and around gardens, mowing, adding gravel edges to paths and gardens, and harborage removal (brush piles, unkempt wood piles, rock piles) can all reduce human / tick interactions.
 - Pest management professionals need to become experts in tick surveillance. For tick management to occur, one needs to know exact areas of tick activity, what life stage is active, what species are present, what infection rates are like in the area (high rates might mean increased surveillance and more aggressive treatment), and human presence and opportunity for interaction (no need to treat the middle of a patch of woods in a park if no one goes there). Ticks don't move very far on their own, without hitchhiking on their hosts, so finding their exact location is critical to any control measure.
 - Any time a chemical treatment takes place, pre- and post-treatment efficacy surveillance is needed to determine whether the treatment worked and how well, and whether there were any unintended consequences, by-kill, or other untoward outcomes.
 - There are some interesting alternative approaches to tick control being explored, such as rodent-targeted vaccines and tick tubes for mice, and 4-posters for deer, a device that attracts deer to a bait station and rolls an acaricide along their flanks with rollers while they move into and out of the 4-poster.

Vermont Ticks

We're currently in the research and understanding phase of ticks, their different habitats, behaviors, and host preferences, and the best ways to control them. The Vermont Agency of Agriculture, Food & Markets' Environmental Surveillance Program has been conducting tick surveillance for about a decade and we've learned a lot. We have improved our surveillance techniques and figured out the best places to look for ticks and what the elevational cutoffs are for tick viability, we've hired additional field technicians, and we've added several programs to our surveillance efforts.

There have been 15 species of ticks recorded in Vermont. The Black-Legged Tick is by far the most commonly encountered, with the American Dog Tick coming in second. Black-Legged Ticks are responsible for more than 99% of all tick-borne illness in Vermont. Many other tick species have highly specific host preferences, such as Beaver Ticks, Woodchuck Ticks, Squirrel Ticks, and Rabbit Ticks, and are therefore very rarely found in our surveillance efforts or encountered by Vermont citizens. More information on Vermont ticks can be found at <https://agriculture.vermont.gov/public-health-agricultural-resource-management-division/plant-health-and-pest-management/ticks>

Passive Tick Surveillance Project

We welcome Vermonters to submit ticks they collect from themselves or their children and pets or the environment for identification to species, sex, life stage, and engorgement rate for assistance when communicating with their health care provider. We do not test these ticks for pathogens. <https://agriculture.vermont.gov/public-health-agricultural-resource-management-division/plant-health-and-pest-management/ticks-1>

Introducing... [Return to Menu](#)

The Vermont Agency of Agriculture (VAAF) is pleased to welcome **Jessica Tessier** to their pesticide team. Jessica is VAAF's newest pesticide field staff, covering northeastern Vermont.



Jessica was born and raised in Livermore, Maine and was brought up on a farm raising beef and commercial greenhouses operation. She was active in 4-H with beef and equine projects and later became a group leader teaching animal husbandry and horticulture to the area youth. Teaching sustainable agriculture using natural methods has become my mission. She studied business at Central Maine Community College and CCV and has earned a certificate in Holistic Nutrition.

The choice was made to move to NEK of Vermont from Maine in 2017 after her husband and she made the decision to sell their long-time trucking and farming operation to spend more time with their family. To meet the nutritional needs of her family raising our own organic meats and gardening has become a passion through necessity.

Jessica worked with the Agency of Transportation as an Operations Technician for the past 4 years. She was the district right of way pesticide applicator and developed in-house training for the agency's new applicators and was their mentor. She has been a certified applicator for 23 years with experience in both private and commercial applications. She has worked as a hoof trimmer and assisting with nutrient management on some of the large farm operations in the NEK and continues to support cropping crews during peak season.

When not working or in a tractor she spends my time with her horses and dogs, reading and furthering her education. She enjoys cooking and creating new healthy recipes for her husband and two adult children.

Retirement Announcement

Many of you, especially those in southern Vermont, have worked with our field agent, **Doug Johnstone**. As of January 26th, and after 30 years, Doug has retired from the VT Agency of Agriculture.

Doug graduated from Delaware Valley College in 1986 with a BS in Animal Husbandry. After college he was an AI technician/direct herd rep for ABC Breeders on the Eastern Shore. Doug moved back to Jersey in 1987, to manage Oakeside Farm before taking the assistant herdsman position at Dunwalke Farms. In 1992, he moved to Vermont to become a part of Cedar Circle Farm, after which he joined the Agency in 1994.

We wish Doug the best and thank him for his many years of dedication for his work in assuring safe pesticide use and serving Vermonters. Doug hopes to stay involved with the community he has known for the last 30 years, as well as spend time with his daughter and darling granddaughters.

Helpful Contacts for Pesticide Applicators

Vermont Agency of Agriculture, Food & Markets

Certification & Training	(802) 828-1732	agr.pest@vermont.gov
Field Agent South	<i>na</i>	<i>currently vacant</i>
Field Agent Central	(802) 661-8284	Clark.Parmelee@vermont.gov
Field Agent Northeast	(802) 261-7898	Jessica.Tessier@vermont.gov
Field Agent Northwest Golf Course Permit Coordinator	(802) 318-1383	Matthew.Wood@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
Agricultural Innovation Board	(802) 279-9395	Morgan.Griffith@vermont.gov
Deputy Director, Public Health and Agricultural Resource Management	(802) 661-8051	Stephanie.Smith@vermont.gov
Deputy Director, Public Health and Agricultural Resource Management	(802) 461-7160	David.Huber@vermont.gov
Director, Public Health and Agricultural Resource Management	(802) 522-6973	Steve.Dwinell@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
Agronomy	(802) 524-6501 x437	Heather.Darby@uvm.edu
Agronomy Outreach Specialist Pollinator Health	(802) 751-8307 x356	Laura.O.Johnson@uvm.edu
Vegetable & Berry	(802) 257-7967 x303	Vernon.Grubinger@uvm.edu
Tree Fruit & Viticulture Specialist	(802) 656-0972	Terence.Bradshaw@uvm.edu
Entomology	(802) 656-5440	Margaret.Skinner@uvm.edu

Pre-Season Checklist

Applicator:

- Check your applicator certification to make sure it is current.
- Check your applicator certification to make sure you have the correct category(ies) for the work you plan to do.
- Complete additional required training if you will be applying Paraquat.

Equipment and Sprayer Calibration:

- Check for and replace worn nozzles
- Check for and clean or replace clogged nozzles
- Check pressure value accuracy
- Check your travel speed by setting up a travel distance based upon your nozzle spacing
- Check all hoses and fittings for leaks or pin holes
- Check strainers and other sprayer parts for clogs or kinks in hoses
- Calibrate your spray equipment

Pesticides:

- Inventory pesticides in storage and check if amounts are adequate.
- If you need to purchase more pesticides, use the previous year's records to help estimate how much to buy. Order only what you plan to use for the season
- Check your pesticide storage area and check for leaking containers or other concerns
- Check pesticide storage for old pesticides you do not plan to use. Do not hold on to them!
For pesticides you will no longer use, contact your local Waste District to inquire about proper disposal
- Labels may change from year to year. Read the labels of the pesticides you plan to use. Check what PPE you will need, plant back restrictions, environmental precautions, restricted entry intervals, noted endangered species etc. Check your pesticide spill cleanup kits and replace any missing items
- Make sure you have necessary measuring and mixing equipment

PPE:

- Check PPE in storage to see if any needs replacing. Is it free of tears, rips, or holes or has become brittle in storage?
- Check the labels of the pesticides you plan to use and make sure you have the correct PPE
- Order any PPE you will need for the season
- If using respirators, complete annual fit testing and training

Worker Protection Standard (WPS) Compliance – for farms:

- Provide required training for all workers and handlers before any work is done
- Complete and file required training documentation
- Check central information station to see that it is complete
- Review the WPS How to Comply manual



Home Study Quiz 1 – Invasive Plants, Ticks

Please keep answers brief; use additional paper as needed.

1. Where were two new invasive plant species found in Vermont in 2023?
2. What do mile-a-minute leaves and fruit look like?
3. When is the best time to hand pull or chemically manage mile-a-minute weed ?
4. List three reasons why pale swallow-wort is on Vermont's Noxious Weed Quarantine list.
5. Can pale swallow-wort sprout from root fragments? (select one)
Yes No
6. When is the best time to cut or mow pale swallow-wort?
7. What animals do Black-Legged Ticks feed on at their different life stages?
8. List three reasons tick control can be difficult.
9. Where in the landscape should management be targeted to reduce human/tick interactions?
10. What surveillance information is needed for effective tick management?

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



The following information is REQUIRED for ALL submissions:

All boxes must be checked and fields completed for quiz to be accepted for credit

Title:	00052B: <i>The Pesticide Applicator</i> Spring 2024	
Name:		
Certificate #:		Check one: <input type="checkbox"/> Commercial <input type="checkbox"/> Private <input type="checkbox"/> Non-commercial
Street Address:		
City/State/Zip:		
Company/Farm:		
Email:		
<input type="checkbox"/> By checking this box you agree that this information belongs to the person completing the quiz. <i>quizzes may not be completed by a third party for credit</i>		

Email Submission (Preferred Method) Directions:

- Enter quiz answers and required information in the pdf fillable fields.
- Save the completed pdf and email to agr.pest@vermont.gov
- Please include "QUIZ" in the email subject line
- *It is not necessary to separate the quizzes from the rest of the newsletter*

Postal Mail Submission Directions:

- Print out the quiz and submission page as needed.
- Enter quiz answers and required information.
- Mail completed quiz to: Vermont Agency of Agriculture, Food & Markets, attn: Bethany Creaser
116 State Street, Montpelier, VT 05620-2901



Home Study Quiz 2 – Tips, Water Quality, Reading Labels

Please keep answers brief; use additional paper as needed.

1. What should you include in your routine pesticide application records to make annual use reports easier?
2. What section of a pesticide label contains instructions to protect surface water?
3. Can a product labeled for aquatic use be hazardous to fish? (select one)

Yes No
4. What is required before any pesticide application made to waters of the state?
5. What is the minimum buffer for public community drinking water sources required by the Vermont Pesticide Rule?
6. List three pesticide application best management practices near water.
7. What unique information is used to identify and track pesticide products?
8. Where do you find what is actually in a pesticide product?
9. What resources are useful when considering or comparing products?
10. What is the difference between brand and generic pesticide products?

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



The following information is REQUIRED for ALL submissions:

All boxes must be checked and fields completed for quiz to be accepted for credit

Title:	00052B: <i>The Pesticide Applicator</i> Spring 2024	
Name:		
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Street Address:		
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AGRICULTURAL PESTICIDE APPLICATOR MEETING

Updates on pest management and pesticide safety practices in agriculture

This program will provide Vermont or New York recertification credits.*

March 19, 2024: Virtual via Zoom

Register at <http://go.uvm.edu/vtaa24>

**Those seeking NY credit must submit a copy of their applicator ID and check-in for roll call prior to start of meeting. See program for details.*

Visit www.uvm.edu/extension/psep for more information about the program or contact Sarah Kingsley-Richards at (802) 656-0475 sarah.kingsley@uvm.edu



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INITIAL PESTICIDE CERTIFICATION MEETING

Review of the Northeast CORE Manual followed by
the Vermont Pesticide Applicator CORE Exam

April 9, 2024: In-Person Interactive Training & Exam

Sites: Rutland, Brattleboro, St. Johnsbury, Burlington

Register at <https://go.uvm.edu/core24>

Visit www.uvm.edu/extension/psep for more information about the program or contact Sarah Kingsley-Richards at (802) 656-0475 sarah.kingsley@uvm.edu



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