

Pesticide Safety Education Program ANNUAL REPORT

SEPTEMBER 1, 2024 – AUGUST 31, 2025



University of Vermont
Extension

College of Agriculture and Life Sciences

HOSTED EVENTS (attendees)

- 2024 Pest Management Professionals Meeting. West Lebanon, New Hampshire. 10/8/24 (148)
Vermont's annual training for pest management professionals https://www.uvm.edu/d10-files/documents/2025-02/PSEP_PMP24.pdf

IMPACTS:

- 95% moderate/considerable (49% increase) general knowledge about Vermont Enforcement and Compliance
- 100% moderate/considerable (9% increase) general knowledge about Labels, Drift, Spill Control
- 96% moderate/considerable (19% increase) general knowledge Occasional Invaders
- 96% moderate/considerable (86% increase) general knowledge about Green Pest Control
- 96% moderate/considerable (35% increase) general knowledge about Mosquitoes & Ticks
- 94% moderate/considerable (15% increase) general knowledge about Bait Box BMPs
- 98% moderately/very likely to apply and use pesticides more safely
- 94% moderately/very likely to adopt at least one new IPM practice
- "More knowledge to inform customers about limitations of and more importantly does not mean no toxic effect with green products"
- "Doing more exclusion work to stay away from chemicals and pesticides"
- "Annual meeting is always a great opportunity to refresh our knowledge base on our everyday challenges, hear about upcoming changes to our industry, and a chance to interact with our industry friends"

SUCCESS STORY: 2024 Pest Management Professionals Meeting

Certified structural and vector (e.g. mosquitos, ticks) pesticide applicators in New England must earn recertification (i.e. continuing education) credits to maintain certification. Certification ensures proper and legal use of pesticides that reduces potential risk to human health and the environment. The annual recertification credit meeting for certified structural pesticide applicators hosted by the Vermont Agency of Agriculture, Food & Markets did not include a vector pest focus and the central Vermont location reduced accessibility to a broader New England audience. Online registration and credit card payments were not available, delaying the registration process and further reducing participation.

The 2024 Pest Management Professionals Meeting newly hosted by both the University of Vermont Extension Pesticide Safety Education Program and Vermont Agency of Agriculture, Food & Markets provided focused continuing education components for both structural and vector pesticide applicators from throughout New England. A new coordinated advertisement campaign included targeted email, print, and a web presence for additional archiving of meeting materials. The in-person meeting was held in a new West Lebanon, New Hampshire meeting location to allow greater

participant access. Online registration accepting credit card payments and registration support were made available to participants.

A record number of participants attended the annual Pest Management Professionals Meeting in 2024, a 153% increase over the previous two-year average, with attendees from Connecticut, Massachusetts, New Hampshire, New York, and Vermont. The expanded focus of the presented materials provided valuable continuing education for this broader audience resulting in a 230% increase in individuals receiving recertification credit. 90% of participants rated the overall content of the meeting as very good or excellent with an average of 36% increase in knowledge across presented subject areas. 98% of participants are likely to apply and use pesticides more safely as a result with 94% likely to adopt at least one new Integrated Pest Management practice. Better understanding to advise customers on “green” products, mosquito prevention practices, and protection of pollinators were cited as results of meeting presentations, reducing potential risk to human health and the environment. The University of Vermont Extension Pesticide Safety Education Program continues to work closely with the Vermont Agency of Agriculture, Food & Markets to provide education resources for structural and vector pesticide applicators.

- 2025 Agricultural Pesticide Applicator Meeting. Live online. 3/18/25 (138)
Updates on pest management and pesticide safety practices in agriculture and outdoor sites for certified applicators https://www.uvm.edu/d10-files/documents/2025-02/PSEP_VTAA25.pdf

IMPACTS:

- 95% moderate/considerable (34% increase) general knowledge about Vermont Enforcement and Compliance Process
- 68% moderate/considerable (255% increase) general knowledge about FieldWatch
- 97% moderate/considerable (1% increase) general knowledge about Pesticide Handling Practices
- 98% moderate/considerable (4% increase) general knowledge about Pesticide Toxicity and Personal Risks
- 97% moderate/considerable (1% increase) general knowledge about Label Precautionary Statements
- 93% moderately/very likely to apply and use pesticides more safely
- 76% moderately/very likely to adopt at least one new IPM practice
- “It was an excellent refresher about interpreting the label, proper mixing and loading, and PPE”
- “I can now explain to the public why they can always find "effects" of various pesticides, due to the mandatory testing for registration”
- “It is helpful to be reminded of simple steps that can make a big difference when working with pesticides”

Attendee Poll Data:

Categories

- 33 1A-Agriculture-Plant
- 27 2-Forest
- 14 3A-Ornamental and Shade Tree
- 29 3B-Turf
- 20 6-Right of Way
- 11 7B-Vector Pest
- 17 10-Demonstration and Research
- 4 Private 1-Animal and Livestock

- 9 Private 2-Tree Fruit
- 8 Private 3-Small Fruit and Vegetable
- 3 Private 4-Plant Propagation
- 2 Private 5-Aquaculture
- 9 Private 6-Field Crops

SUCCESS STORY: 2025 Agricultural Pesticide Applicator Meeting

Certified pesticide applicators in New England must earn recertification (i.e. continuing education) credits to maintain certification. Certification ensures proper and legal use of pesticides that reduces potential risk to human health and the environment. Recertification credits are earned by attending approved meetings or courses that often have travel costs, reducing accessibility. Additionally many of these events are for specific trades (e.g. tree fruit, structural, etc.), further reducing options for outlying categories (e.g. aquaculture, right of way, etc.). The existing annual recertification credit meeting for certified agricultural pesticide applicators did not include broader outdoor pesticide applicator audiences who would also benefit from the presented material.

The 2025 Agricultural Pesticide Applicator Meeting sponsored by the University of Vermont Extension Pesticide Safety Education Program and Vermont Agency of Agriculture, Food & Markets provided continuing education for both agricultural and outdoor (e.g. forest, turf, right of way, etc.) pesticide applicators including outlying categories that have fewer options for credits. The virtual meeting was accessible to this broad audience throughout New England.

A record number of participants attended the annual 2025 Agricultural Pesticide Applicator Meeting in 2025, a 228% increase over the previous two-year average, with attendees from Massachusetts, New Hampshire, New York, and Vermont. The presented materials provided valuable continuing education for this broader audience. 91% of participants increased knowledge on average across presented subject areas. 93% of participants are likely to apply and use pesticides more safely as a result with 76% likely to adopt at least one new Integrated Pest Management practice. Better understanding of mandatory pesticide testing, interpreting labels, proper mixing and loading practices, and use of personal protective equipment were cited as results of meeting presentations, reducing potential risk to human health and the environment.

- 2025 Initial Pesticide Certification Meeting. Live hybrid. 4/8/25 (75)
 - Rutland VT (11), Brattleboro VT (15), St. Johnsbury VT (16), Burlington (33), Vermont
 Review of the Northeast CORE Manual followed by the Vermont Pesticide Applicator CORE Exam
https://www.uvm.edu/d10-files/documents/2024-12/PSEP_CORE25.pdf

IMPACTS:

- 77% pass rate (in-state average 64%)
- 90% moderately/well prepared (+44%, 95% increase) to take the exam following the review session
- 100% moderately/very likely to apply and use pesticides more safely
- 93% moderately/very likely to adopt at least one new IPM practice
- 95% moderately/very likely to adopt at least one new IPM practice to protect pollinator
- “A relatively complex topic made very accessible”
- “This meeting helped with the full understanding of the concepts of the core material”
- “This program solidified knowledge I had already read to help retain it for testing”
- “I learn better in person so this was very helpful for me”

Test results:

- 69 tests administered
- 16 failed
- 77% pass rate

SUCCESS STORY: 2025 Initial Pesticide Certification Meeting

All prospective pesticide applicators in the state of Vermont must understand the Northeast Core Manual and inserts to pass the Vermont Pesticide Applicator Core Exam required to become certified. Certification ensures proper and legal use of pesticides that reduces potential risk to human health and the environment. Pesticide applicators are expected to study on their own prior to taking the exam and schedule their exam separately. The length and breadth of the information, much of which is new to the applicant, is a challenge to effective learning and does not provide relatable context. The reading-based self-study is not inclusive of alternate learning styles. Certification, exams, and pesticide use are regulated exclusively by the Vermont Agency of Agriculture, Food & Markets and employs regional Resource Management Specialists to support pesticide applicator understanding and compliance with regulations. Many pesticide applicators do not recognize their regional specialist as a support resource and are only familiar through enforcement actions that could be avoided with improved communication.

The 2025 Initial Pesticide Certification Meetings sponsored by the University of Vermont Extension Pesticide Safety Education Program and Vermont Agency of Agriculture, Food & Markets provided an in-person review of the Northeast Core Manual followed by the Vermont Pesticide Applicator Core Exam. While this review was not intended as a substitute for self-study, it did cover the majority of information necessary to understand and pass the exam. The material was presented in lecture format with modules of similar content areas, plentiful references and examples, and opportunity for questions and answers. Additional material was presented to provide further detail on areas of known difficulty for new applicators. The live hybrid meetings were held at four regional sites throughout the state to allow greater participant access. On-site assistance by the regional Resource Management Specialist provided a positive introduction and acknowledgement of support services available for new applicators.

An increased number of participants attended the annual Initial Pesticide Certification Meetings in 2025 with three of the four regional sites at maximum capacity, accounting for 15% of Vermont Pesticide Applicator Core Exams administered in the past three calendar quarters. The review session presentation module arrangement, examples, and support from on-site Resource Management Specialists provided relatable context to reinforce and supplement manual information. 100% of participants are likely to apply and use pesticides more safely as a result with 95% likely to adopt at least one new Integrated Pest Management practice to protect pollinators. The hybrid in-person lecture format accommodated audio/visual and social learning styles to improve information retention. Participants were 44% more prepared to take the exam following the review session. The pairing of the review with immediate exam administration directly applied the learned information and reduced exam anxiety, ensuring exam completion with a 77% pass rate, an increase from the in-state average of 64% pass rate.

PRESENTATIONS (attendees)

- Green Pest Control. Pest Management Professionals Meeting. West Lebanon, New Hampshire. 10/8/24 (148)
 - IMPACTS:**
 - See Hosted Events
- Nurturing Nature in Our Lawns. UVM Extension Master Gardener Conference. Live online. 12/7/24 (108) <https://youtu.be/2U6Gm8eA2RQ>
 - IMPACTS:**
 - 75% moderately/very likely to change the way they talk about/educate the public about lawn management
 - 57% moderately/very likely to use Integrated Pest Management (IPM) practices for lawn care
 - 67% very likely to select lawn or ground cover species best for your landscape conditions
 - 57% moderately/very likely to identify lawn pests for improved management
 - ““The presentation gave me a more informed perspective on lawn care.”
 - “This was quite helpful as it provided information for all types of lawns and how to help people be more successful in their goals.”
 - “Lawns are the place where people can make positive changes for increasing biodiversity.”
- Northeast CORE Manual Review. Initial Pesticide Certification Meeting. Live hybrid. Burlington, Brattleboro, Rutland, St. Johnsbury, Vermont. 4/8/25 (75)
 - See Hosted Events
- Pesticide Certification Intro. ALE 2810 Professional Development: Agriculture, Landscape, and Environment. Burlington, Vermont. 4/15/25 (18)

THE PESTICIDE APPLICATOR NEWSLETTER

Biannual newsletter for Vermont's pesticide applicators from the Vermont Agency of Agriculture, Food & Markets and University of Vermont Extension Pesticide Safety Education Program

- Fall 2024 https://agriculture.vermont.gov/sites/agriculture/files/documents/TPA_Fall2024.pdf
- Spring 2025 https://agriculture.vermont.gov/sites/agriculture/files/documents/TPA_Spring2025.pdf
 - IMPACTS:**
 - 1508 subscribers
 - Fall 2024: 155 subscribers (10%) submitted 310 quizzes @1 credit each
 - Spring 2025: 93 subscribers (6%) submitted 186 quizzes @1 credit each
 - Biennial evaluation (Spring 2025) results:**
 - 89% apply and use pesticides more safely
 - 44% adopt at least one new IPM practice
 - “This is an invaluable tool for not only knowledge but skills, habits, protocols, safety, and current events”
 - “It makes me think about the pesticides I'm using, is it best, is it the most efficient, what's the environmental impact”
 - “I feel more able to choose between synthetic and natural treatments with better precision and clarity”

- “We have minimized our use of toxic chemicals; not only a cost savings but less chemical and less disease resistance”

SUCCESS STORY: *The Pesticide Applicator* Newsletter

All certified pesticide applicators in the state of Vermont must earn recertification (i.e. continuing education) credits to maintain certification. Certification ensures proper and legal use of pesticides that reduces potential risk to human health and the environment. Recertification credits are earned by attending approved meetings or courses that often have registration and/or travel costs, reducing accessibility. Additionally many of these events are for specific trades (e.g. tree fruit, structural, etc.), further reducing options for outlying categories (e.g. cooling towers, right of way, etc.).

The Pesticide Applicator is a free biannual publication distributed to certified applicators in Vermont from the Vermont Agency of Agriculture, Food & Markets and University of Vermont Extension Pesticide Safety Education Program to keep applicators informed of current pesticide-related topics, education opportunities, and regulatory developments. Recertification credits may be earned by completing included content-based quizzes appropriate for any category of certified applicator. The publication transitioned to a fully digital format in 2024 to improve distribution speed and functionality with live links, active navigation, and digital quiz submission. The Fall 2024 and Spring 2025 issues were distributed to 1508 active pesticide applicators.

Up to 10% of active pesticide applicators completed quizzes in *The Pesticide Applicator* per issue in Fall 2024 and Spring 2025. Quiz completion reinforces current pesticide practices and regulatory requirements to ensure proper and legal use of pesticides. 89% of *The Pesticide Applicator* recipients are likely to apply and use pesticides more safely as a result with 44% likely to adopt at least one new Integrated Pest Management practice. Improved ability to choose synthetic and natural treatments, consideration of product efficacy and environmental impact, and minimized use of toxic products to improve cost savings and chemical resistance were cited as the result of *The Pesticide Applicator* content, reducing potential risk to human health and the environment.

ARTICLES, FACT SHEETS & VIDEOS

Relevant information for proper and legal use and understanding of pesticides

- Back to Basics CORE Essentials: Decoding Formulations. The Pesticide Applicator Report, Fall 2024 https://agriculture.vermont.gov/sites/agriculture/files/documents/TPA_Fall2024.pdf
- Back to Basics CORE Essentials: Storage, Transport, Security. The Pesticide Applicator, Spring 2025 https://agriculture.vermont.gov/sites/agriculture/files/documents/TPA_Spring2025.pdf

PESTICIDE CREDIT ADMINISTRATION

Ensure pesticide credit approval, verify participant attendance requirements for credit, issue credit certificates, notify State Lead Agencies of credits issued

- 2024 Northeast Greenhouse Conference Webinar Series (2 events)
 - 58 VT certificates @1 credit each
 - 37 participants certified

- Agricultural Pesticide Applicator Meeting, live online 3/18/25
 - 158 VT certificates @2-4 credits each; 10 NY certificates @4.5 credits each
 - 129 participants certified
- Vermont Pesticide Safety Education: On-demand online training
 - 4 VT certificates @1 credit each

ON-DEMAND ONLINE TRAINING (participants)

Resources to help study for pesticide applicator exams and/or to provide recertification credits for certified pesticide applicators. Annual enrollment numbers.

<https://www.uvm.edu/extension/pesticide-safety-education-program-online-courses>

- Vermont Pesticide Safety Education: CORE Manual Review (no credit) (33)
IMPACTS:
 - 79% moderately/very prepared to take the exam (166% increase)
 - 98% moderately/very likely to apply and use pesticides more safely
 - 92% moderately/very likely to adopt at least one new IPM practice
- Vermont Pesticide Education: Category 3B Manual Review (no credit) (13)
IMPACTS:
 - 100% moderately/very comfortable to take the exam
 - 100% moderately/very likely to apply and use pesticides more safely
 - 100% moderately/very likely to adopt at least one new IPM practice
 - "Great little study guide!"
- Vermont Pesticide Education: Category 7A Manual Review (no credit) (12)
IMPACTS:
 - 90% moderately/very comfortable to take the exam (125% increase)
 - 92% moderately/very likely to apply and use pesticides more safely
 - 92% moderately/very likely to adopt at least one new IPM practice
- Vermont Pesticide Education: Category 7C Manual Review (no credit) (5)
IMPACTS:
 - 100% moderately/very comfortable to take the exam
 - 100% moderately/very likely to apply and use pesticides more safely
 - 100% moderately/very likely to adopt at least one new IPM practice
- Vermont Pesticide Education: Category 7F Manual Review (no credit) (0)

The following on-demand online training courses were retired on 4/1/25

Quizzes transferred to Manual Review courses as practice quizzes.

- Vermont Pesticide Safety Education: CORE Manual Review, Unit #1 (1 credit) (0)
- Vermont Pesticide Safety Education: CORE Manual Review, Unit #2 (1 credit) (0)
- Vermont Pesticide Safety Education: CORE Manual Review, Unit #3 (1 credit) (0)
- Vermont Pesticide Safety Education: CORE Manual Review, Unit #4 (1 credit) (1)
- Vermont Pesticide Education: Managing Pests While Protecting Pollinators (1 credit) (1)
- Vermont Pesticide Education: Category 7A Manual Review, Unit #1 (1 credit) (0)
- Vermont Pesticide Education: Category 7A Manual Review, Unit #2 (1 credit) (0)
- Vermont Pesticide Education: Category 7A Manual Review, Unit #3 (1 credit) (0)
- Vermont Pesticide Education: Category 7A Manual Review, Unit #4 (1 credit) (0)
- Vermont Pesticide Education: Category 7F Manual Review (2 credit) (1)

SUCCESS STORY: Vermont Pesticide Safety Education On-Demand Online Training

All prospective pesticide applicators in the state of Vermont must understand the Northeast Core Manual and inserts to pass the Vermont Pesticide Applicator Core Exam required to become certified. Commercial and Non-commercial pesticide applicators must also understand the manual and pass exams in their specific application categories (e.g. agriculture, turf, structural, etc.) to complete their certification. Certification ensures proper and legal use of pesticides that reduces potential risk to human health and the environment. Pesticide applicators are expected to study on their own prior to taking an exam and resources to help study are limited or have travel costs that reduce accessibility. The length and breadth of the information, much of which is new to the applicant, is a challenge to effective learning and does not provide relatable context. The reading-based self-study is not inclusive of alternate learning styles

The on-demand University of Vermont Extension Pesticide Safety Education Program Manual Review Online Courses provide review of Core and category manual content to help study for pesticide applicator exams through Extension Campus, part of the national Cooperative Extension System. While a review course is not intended as a substitute for self-study, it does cover the majority of information necessary to understand and pass the exam. Material for each course is presented as modules of similar content areas through video presentations with plentiful references and examples, reference materials, and practice quizzes that may be viewed at the participant's own pace and full completion is not required. The online format is accessible to anyone using the manual for their state pesticide applicator certification. The Vermont Agency of Agriculture, Food & Markets endorses of the courses through their pesticide applicator resources and exam registration system.

A record number of participants enrolled in Vermont Extension Pesticide Safety Education Program Online Manual Review Courses in 2025, a 225% increase over the previous year. The addition of a new category course accounted for 18% of the increase. The review presentation module arrangement and examples provided relatable context to reinforce and supplement manual information. 98% of participants on average across all courses are likely to apply and use pesticides more safely as a result with 96% likely to adopt at least one new Integrated Pest Management practice. The module video format accommodates audio/visual learning styles to improve information retention and practice quizzes improve confidence applying the information to the exam. Participants were 92% more prepared to take the exam following the review on average across all courses. Additional manual review on-demand online training courses will be developed to further expand the study resources available to pesticide applicators.