

United States Department of Agriculture
Progress Report

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Program Code: EIP

Program Name: Extension Implementation Program

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Recipient Organization

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Departments

Plant & Soil Science
{NO DATA ENTERED}
Agriculture, Landscape, and Environment

Non-Technical Summary

Agriculture is essential to Vermont's economy, generating an estimated \$11.3 billion annually. Over the past two decades, Vermont's agriculture has become more diverse. Currently 75% of farms produce crops other than the agronomic crops supporting the dairy industry. New and existing farms have expanded production of fruit crops, ornamentals, high tunnel vegetables, soybeans, and organic grains, all key to maintaining Vermont's agriculture and a healthy working landscape.

With the changes in Vermont's agriculture sector (increased numbers of dairy cows and increased diversified acreage), we are seeing new pests requiring integrated pest management (IPM) strategies. Emerging arthropod pests, invasive weeds, and diseases require IPM tactics to minimize crop loss and the unnecessary use of pesticides. Current IPM strategies for established pests must also be adapted to changing climatic conditions like warmer temperatures, longer growing seasons, significant rain events, and droughts now common in the state. The changes in Vermont's agriculture sector also includes beginning farmers who don't often come from farm backgrounds and are eager for information. This new audience needs to build confidence in pest and disease identification and learn how to successfully incorporate IPM tools into their operations.

The VT EIP team has expertise aligned with the IPM needs of the diverse crops and audiences in the state and includes the Priority Areas of IPM Implementation in: Agronomic Crops, Specialty Crops (Tree Fruit/Grapes, Greenhouse/High Tunnel), Animal Agriculture, and Communities; IPM for Pesticide Applicators; and IPM Support for Pest Diagnostic Facilities. The UVM Extension Plant Diagnostic Clinic supports all VT EIP programs by providing timely and accurate pest identification as the critical first step of IPM. The UVM Extension Community Horticulture Program (Master Gardener) serves as a hub for all VT EIP program consumer-targeted IPM information outreach.

VT EIP strives to advance the goals of the National IPM Roadmap, USDA Strategic Plan, Northeastern IPM Center priorities and address CPPM program focus areas by introducing IPM awareness and strategies to increase knowledge and adoption among both new and established stakeholders in addition to fostering established networks to introduce new IPM tactics,

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emerging high consequence pests and climate change. VT EIP recognizes the impacts on IPM programs and stakeholders due to decreasing numbers of relevant faculty and technical positions throughout the Northeast and the need to foster next generation IPM scientists and educators. A key component of VT EIP will foster next generation IPM scientists and educators.

Accomplishments

Major goals of the project

The goals of VT EIP are to develop and provide effective IPM education and outreach programs for both new and established growers and consumers in addition to promoting next generation IPM educators and scientists. The VT EIP Priority Area efforts focus on the following three objectives to promote new IPM tools and tactics for established practitioners, increase IPM awareness and adoption for new audiences, and develop the next generation IPM scientists and educators.

Objective 1. Promote New IPM Tools and Tactics for Established Practitioners

Objective 2. Increase IPM Awareness and Adoption for New Audiences

Objective 3. Develop the Next Generation of IPM Scientists and Educators

What was accomplished under these goals?

Each facet of the VT EIP is increasing the adoption of IPM practices in a variety of crops and settings to reduce the amount of pesticides used and lower costs while protecting the environment and human health. Agronomic Field Days & Conferences participants have increased knowledge of IPM practices, including scouting and managing seedborne diseases. Up to 82% of orchards have changed management practices to improve timing, decrease pesticide use, and protect pollinators. "Adjusted my mowing of my orchard to account for pollinators." A Greenhouse/High Tunnel Post Doc learned how to scout for natural enemies and pests and gained impact assessment knowledge assisting with the Tristate Greenhouse IPM Workshop. On-farm Livestock IPM Pasture Walks are planned for 2025. 55% of Master Gardener Helpline clients implemented the IPM strategies recommended and 67% reduced or avoided the use of pesticides, saving \$303 per client on pesticide costs. Annual pesticide certification meeting participants are likely to use pesticides more safely and adopt IPM practices, "It is helpful to be reminded of simple steps that can make a big difference when working with pesticides." 93% of Plant Diagnostic Clinic clients implemented recommended IPM strategies and 76% reduced their the use of pesticides, saving \$453 per client on pesticide costs. Please see the following accomplishments for more details.

Objective 1. Promote New IPM Tools and Tactics for Established Practitioners

Agronomic Field Days and Winter Conferences:

- 91% increased knowledge of IPM topics
- 84% intend to adopt IPM practices
- 47% intend to adopt a cultural practice such as rotation, resistant varieties, row spacing, planting date etc.
- 43% plan to start scouting their crops
- 19% plan to start testing seed quality
- 29% intend to purchase only certified seed
- 29% plan to adopt a new seed treatment practice such as steam, biologicals, or ozone

Seed Quality Testing:

- 100% increased knowledge of IPM topics
- 100% intend to adopt IPM practices
- 50% intend to adopt a cultural practice such as rotation, resistant varieties, row spacing, etc.
- 20% intend to purchase only certified seed
- 25% plan to adopt a new seed treatment practice such as steam, biologicals, or ozone
- 100% planned to use a testing service to evaluate seed quality

Agronomic Extension Outreach Education Outputs:

- Two webinar attendees mentioned it was "the best neonic presentation heard to date!"

Tree Fruit/Grape Workshops:

- Vermont Tree Fruit Growers Assoc. Annual Meeting
- 79-93% knowledge of Plant Growth Regulators, Apple Disease Management, Bitter Pit Management, New and Emerging Diseases of Tree Fruit
- 73% to adopt at least one new IPM practice
- 18-82% changed an IPM management practice in 2024 to improve timing, decrease pesticide use, protect pollinators (crop load management, pest/groundcover management)
- "This talk plus help from pest tracking project helped me learn better to identify pests"
- "Hope to use NEWA for better planning and application of pest management"
- Tree Fruit Twilight Meeting

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- 100% knowledge of Pest ID and IPM, Minimizing pesticide risk to pollinators
- 67% likely to implement a new IPM practice
- "Learned more about timing in pest control"

Northeast Tree Fruit IPM Working Group:

- "The Northeast Tree Fruit IPM Working Group has been the single most important networking opportunity in my work year for over 30 years. I have passed that learning onto growers in Maine and around New England and eastern Canada."

Tree Fruit/Grape Extension Outreach Education Outputs:

- New England Fruit Consortium webinar series
- 191 pesticide credits administered @1 credit each (100 individuals)
- 96-98% knowledge of alternative weed management strategies, bitter rot management strategies, apple scab management strategies

Greenhouse/High Tunnel Winter Conferences:

- Tristate Greenhouse IPM Workshop
- 1.4 point increase in knowledge
- 79% likely to adopt a new IPM practice including id biocontrol agents and pests, release of natural enemies, scouting, and sanitation

Master Gardener Advanced Training:

- UVM Extension Master Gardener Annual Conference
- 75% to change the way they talk about/educate the public about lawn management
- 57% 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% to identify lawn pests for improved management
- "The presentation gave me a more informed perspective on lawn care"
- "Lawns are the place where people can make positive changes for increasing biodiversit."

Pesticide Applicator Recertification Meetings, Online Courses:

- Pest Management Professionals Meeting
- 94-100% knowledge about Labels, Drift, Spill Control; Occasional Invaders; Green Pest Control; Mosquitoes & Ticks; Bait Box BMPs
- 98% to apply and use pesticides more safely
- 94% 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"
- Agricultural Pesticide Applicator Meeting
- 97-98% knowledge about Pesticide Handling Practices; Pesticide Toxicity and Personal Risks; Label Precautionary Statements
- 93% to apply and use pesticides more safely
- 76% likely to adopt at least one new IPM practice
- 162 VT pesticide credits administered @2-4 credits each, 10 NY pesticide credits administered @4.5 credits each (129 individuals)
- "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"
- 4 VT online course pesticide credits administered @1 credit each (4 individuals)

Pesticide Applicator Extension Outreach Education Outputs:

- The Pesticide Applicator newsletter
- 470 pesticide credits administered @1 credit each (235 individuals)
- 89% use pesticides more safely
- 44% adopted at least one new IPM practice
- "It makes me think about the pesticides I'm using, is it best, is it the most efficient, what's the environmental impact"
- "We have minimized our use of toxic chemicals; not only a cost savings but less chemical and less disease resistance"

Northeast Vegetable IPM Working Group:

- 100% reported gaining new knowledge

Objective 2. Increase IPM Awareness and Adoption for New Audiences

Master Gardener Helpline:

- 85% helped to identify pest problem
- 82% received information on IPM strategies

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- 55% implemented recommended IPM strategies
- 67% reduced or avoided pesticides
- \$303 average per client estimated cost savings by reducing pesticide use

Pesticide Applicator Certification Meetings, Online Courses:

- Initial Pesticide Certification Meeting
 - 77% pass rate (in-state average 64%)
 - 90% prepared to take the exam following the review session
 - 100% to apply and use pesticides more safely
 - 93% to adopt at least one new IPM practice
 - 95% to adopt at least one new IPM practice to protect pollinators
 - "A relatively complex topic made very accessible"
 - "This program solidified knowledge I had already read to help retain it for testing"
- Online study courses
 - 80-100% prepared to take the exam
 - 92-100% to apply and use pesticides more safely
 - 92-100% to adopt at least one new IPM practice
 - "Great little study guide!"

Plant Diagnostic Clinic Diagnostics:

- 93% implemented recommended IPM strategies
 - 76% reduced or avoided pesticides
 - \$453 average per client estimated cost savings by reducing pesticide use
- Objective 3. Develop the Next Generation of IPM Scientists and Educators
- Impact assessments pending

What opportunities for training and professional development has the project provided?

{Nothing to report}

How have the results been disseminated to communities of interest?

Agronomic Crops: IPM information is distributed through field days, winter meetings, blogs, websites, webinars, Facebook posts, YouTube videos, phone calls, emails and social media. Conference proceedings and meeting videos will be posted to our website.

Specialty Crops-Tree Fruit/Grapes: IPM information is distributed through website, blog posts, factsheets, on-farm workshops, one-on-one consultations, and presentations at regional grower meetings. Information collected in surveys will remain confidential.

Specialty Crops-Greenhouse/High Tunnel: IPM information is distributed through workshops, conferences, presentations, site visits, factsheets, websites, Facebook page and a listserv.

Animal Agriculture: IPM information is distributed through workshops, on-farm visits, webinars, factsheets, guides.

Communities: IPM information is delivered through the Master Gardener Course, Master Gardener Helpline, advanced training, newsletter, state reports, website, and emails.

Pesticide Applicators: IPM information is distributed through newsletters, online courses, presentations, factsheets, website, emails, and phone calls.

Pest Diagnostic Facilities: IPM information is distributed through sample diagnosis, website, meetings, presentations, webinars, newsletters, television, radio, press releases, factsheets, emails, and phone calls. Northeast Small Fruit and Vegetable IPM Working Group education/research priorities will be shared on the NE IPM center website.

What do you plan to do during the next reporting period to accomplish the goals?

Agronomic Crops: Two IPM field days highlighting pest scouting, pollinator protection, and weed management; two IPM winter conferences covering seed quality, seedborne diseases, variety selection, scouting, management of early season crop pests, weed management in no-till systems, and emerging threats (i.e. corn leafhopper); agronomic pest management demonstrations; continued seed quality testing; pest management updates will be provided throughout the year through blog posts, social media, and newsletters; a VT soybean pest survey will be conducted and a Guide to Soybean Pests will be created for New England farmers; continued reporting to NEERA and REEport, VT EIP team meetings to discuss impacts and evaluation

Specialty Crops-Tree Fruit/Grapes: Six on-farm workshops demonstrating IPM practices; twenty-five IPM e-bulletins to fruit grower listservs; continued support of the NE Tree Fruit IPM Working Group; one IPM fact sheet; thirty one-on-one consultations; continued work with student interns and graduate students on IPM issues in fruit, coordinate VT state NEWA network; continued reporting to NEERA and REEport, VT EIP team meetings to discuss impacts and evaluation

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Specialty Crops-Greenhouse/High Tunnel: Tristate Greenhouse IPM Workshop; regional High Tunnel Conference; High Tunnel Farm tour; two regional IPM factsheets; three High Tunnel newsletter IPM articles; ten IPM farm visits; continued work on IPM education materials and impact assessments with program Post Doc; continued reporting to NEERA and REEport, VT EIP team meetings to discuss impacts and evaluation

Animal Agriculture: Grazed pasture IPM fact sheet; dung beetle ID pocket guide; ten one-on-one grazed pasture IPM assessments with farmers; one livestock pasture walk; program Post Doc will continue to participate in program with one field day and one winter conference presentation; continued reporting to NEERA and REEport, VT EIP team meetings to discuss impacts and evaluation

Communities: Two online presentations (through webinars or annual conference) to train EMG volunteers on IPM; one vetted presentation package; one factsheet on IPM strategy; annual Master Gardener course and evaluation of impacts ; four Ask-an-EMG Information Stations at events in Vermont; Master Gardener Helpline service; continued reporting to NEERA and REEport, VT EIP team meetings to discuss impacts and evaluation

Pesticide Applicators: Two category-specific recertification meetings; one four-part online recertification webinar series; biannual newsletter publication; one annual new applicator certification training; continued new applicator on-demand online training; Master Gardener Course IPM module; two-credit pesticide applicator certification training undergraduate course; continued reporting to NEERA and REEport, VT EIP team meetings to discuss impacts and evaluation

Pest Diagnostic Facilities: Finalize Northeast Veg Working Group priorities ranking, post on NE IPM Center website, assess regional impacts of meeting; four IPM articles for landscape industry; six press releases for the public; ten IPM presentations at grower meetings and public; contribute to regional and state veg and small fruit listservs; continued analysis of samples with IPM recommendations; Master Gardener Course pest diagnostic module; continued training of Post Doc and intern; continued reporting to NEERA and REEport, VT EIP team meetings to discuss impacts and evaluation

Participants

Actual FTE's for this Reporting Period

Role	Non-Students or faculty	Students with Staffing Roles			Computed Total by Role
		Undergraduate	Graduate	Post-Doctorate	
Scientist	4.2	0	0.3	0.5	5
Professional	0.2	0	0	0	0.2
Technical	0.1	1	0	0	1.1
Administrative	0	0	0	0	0
Other	0.1	0	0	0	0.1
Computed Total	4.6	1	0.3	0.5	6.4

Student Count by Classification of Instructional Programs (CIP) Code

Undergraduate	Graduate	Post-Doctorate	CIP Code
2	1	3	01.00 Agriculture, General.

Target Audience

Commercial grain and soybean growers, livestock producers, apple and grape growers, greenhouse and high tunnel operators, vegetable and berry growers, landscapers, pesticide applicators, Master Gardeners, home gardeners, and general public.

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Products

{Nothing to report}

DR 1020-006 Certification Statement

N/A, this project/program did not produce any scholarly publications and data assets as defined by DR 1020-006 during the reporting period.

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Other Products

Type

Other

DOI or Other Persistent Identifier

Associated Publication DOI(s)

Author ORCID(s)

Description

Objective 1. Promote New IPM Tools and Tactics for Established Practitioners -

Agronomic Field Days and Winter Conferences:

- No-Till & Cover Crop Conference. Managing Early Season Crop Pests Without Neonicotinoid Seed Treatment. Burlington VT 2/13/25 (186)
- Farmers Watershed Alliance Annual Meeting. Mycotoxins and Pathogen Contamination in Flooded Feed. St Albans VT 2/4/25 (56)
- Champlain Valley Farmers Coalition Annual Meeting. Transitioning Away from Neonicotinoid Seed Treatments. Middlebury VT 1/27/25 (78)
- Northern Grain Growers Conference. Managing Fusarium Head Blight in Cereal Grain. Essex VT 3/12/25 (133)

Agronomic Pest Management Demonstrations:

- Delivery pending 2025

Seed Quality Testing:

- 24 cereal grain quality testing samples submitted included measurements of mycotoxins and seedborne pathogens.
- Farmers provided with seed quality assessment as well as a cereal grain seedborne disease factsheet on lifecycles, symptoms, identification, and management of seedborne diseases

Agronomic Extension Outreach Education Outputs:

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- 2 Outcroppings blog posts <http://blog.uvm.edu/outcroppn> (172 subscribers)
- White Mold in Dry Beans: 9-Sep 2024
- Corn Stunt Disease and Insect Vector: New Pests in NY State: 18-Nov 2024
- 2 IPM Webinars
- To Treat or Not to Treat – Integrated Pest Management and Neonicotinoid Treated Seed. King’s AgriSeed Seed Dealer and Farmer Meeting. In-person (Harrisburg, PA) and Virtual Event 12/12&13/24 (78)
- Managing Early Season Corn and Soybean Pests. Cornell IPM Working Group. In-person (Geneva, NY) and Virtual Event 3/10/25 (52)
- Tree Fruit/Grape Workshops:
 - VT Tree Fruit Growers Assoc Annual Meeting 2/21/25 (65)
 - Tree Fruit Twilight Meeting 5/8/25 (25), 5/9/25 (15)
- Northeast Tree Fruit IPM Working Group:
 - Northeast Tree Fruit IPM Annual Conference 10/22-23/24 (46)
 - 83 working group forum posts during review period
- Tree Fruit/Grape Extension Outreach Education Outputs:
 - 16 UVM Fruit blog posts <http://go.uvm.edu/ogreu> (299 VTgrape, 170 vtapplegrower)
 - 47 grower consultations
 - New England Fruit Consortium webinar series, Feb-March 2025 (313)
 - 1 presentation on biopesticide and organic vineyard management. VT Grape and Wine Council Annual Meeting 4/21/25 (35)
- Greenhouse/High Tunnel Winter Conferences:
 - Tristate Greenhouse IPM Workshop 1/23&30/25 (136)
 - 2 Tristate IPM Working Group planning meetings (10)
 - 7 presentations prepared and sent to
- Greenhouse/High Tunnel Pest Management Demonstrations:
 - IPM and Biological Control for New Entry Growers (22)
 - Sustainable Agriculture Fellows Tour Session, 9/19/24 Jericho VT. Production and pest management and other topics related to diversified vegetable production. Jericho VT (8)
- Greenhouse/High Tunnel Extension Outreach Education Outputs:
 - 50 insects identified for growers and seed sellers, suggested economically important pest management options
 - 2 issues of the online High And Dry high tunnel newsletter 12/24, 3/25 (4,000 subscribers) <https://go.uvm.edu/owb4z>
 - 5 articles in grower newsletters
 - What’s that bug? Parasitic Praon Wasps. High & Dry Newsletter Issue 5: early Spring 2025
 - Crazee Mite: A New Friend in Town. The Dirt, Green Works Newsletter, Spring Issue
 - What’s that bug? Feather-legged fly. High & Dry Newsletter. Issue 4: Fall 2024
 - Flea beetles: Tiny terrors in your high tunnels. High & Dry Newsletter. Issue 4: Fall 2024
 - Betting on Biologicals to Stem the Tide of Pesticide Use in Greenhouse Ornamentals: What Some VT Growers Have to Say. The Dirt, Green Works Special Edition Newsletter, Fall Issue
 - 1 abstract for grower conference: Avoiding Aphid Outbreaks on High Tunnel Tomatoes. Proceedings from the New England Vegetable & Fruit Conference. Manchester NH. December 17-19, 2024, pp 99-100.
 - 1 article in refereed journal: Sullivan, CF, BL Parker & M Skinner. 2025. 16(3), 319. Special Issue Insects Vectors of Phytopathogenic Agents: Biology, Host-Plant Interactions, and Management <https://doi.org/10.3390/insects16030319>
 - 10 IPM presentations
 - Managing Pests in Your High Tunnels. Online 3/11/25 (50)
 - Entomology 201 for Advanced Master Gardeners. Online 3/21/25 (15)
 - IPM and Biological Control for New Entry Growers: On-farm demonstration, Beverly MA 5/5/25 (22)
 - Integrated Pest Management of High Tunnel Pests. TunnelTalk Webinar 4/7/25 (53)

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- Greenhouse IPM Scout School. Online Certificate Course. 7 sessions: 2/13/25-3/27/25 (40)
 - Attract, Sustain, Kill! Plant-Mediated IPM Systems to Manage Arthropod Pests in Greenhouse-Grown Crops. PSS 2270 Greenhouse Operations & Management 3/20/25 (30)
 - High Tunnel Habitat Plantings Year 1 Results, VVBGA Webinar Series 2/12/25 (343)
 - More on Marigolds: The Canary in Mine. 2025 Tri-state IPM Workshop. Online 1/23&30/25 (136)
 - UV-C for Thrips Management. Tristate IPM Workshop. Online 1/23&30/25 (136)
 - Avoiding Aphid Outbreaks on High Tunnel Tomatoes. New England Vegetable & Fruit Conference. Manchester NH 12/18/24 (100)
- Animal Agriculture Extension Outreach Education Outputs:
- 3 one-on-one trainings in beneficial pasture invertebrate monitoring, beneficial dung insects sampling techniques, dung beetle identification, livestock IPM dung beetle conservation practices. Orange County VT 5/22/25
 - Dung beetle identification pocket guide content planned and photographs collated, research assistant in graphic design hired to begin layout.
 - Policy discussion with NRCS, Xerces Society to develop Livestock IPM standards for pest management conservation system 5/8/25
 - Grazed pasture IPM in-person presentation. VT Grass Farmers Assoc annual meeting 3/25/25 (50)
 - Grazed pasture IPM webinar presentation. Granite State Graziers meeting 4/24/25 (25)
- Master Gardener Advanced Training:
- Tick Research Webinar 9/10/24 (37)
 - VT Bee Lab Webinar 11/13/24 (44)
 - UVM Extension Master Gardener Annual Conference IPM strategies for lawns, gardening with wildlife in mind. Online 12/7/24 (138)
 - Night Visitors Film Screening provided education 4/11/25 (37)
- Community Extension Outreach Education Outputs:
- 1 vetted presentation package- "You Can Be a Houseplant Hero" IPM strategies, videos, demonstration samples, resources in use by Master Gardener volunteers
- Pesticide Applicator Recertification Meetings, Online Courses:
- Pest Management Professionals Meeting, in-person 10/8/24 (148)
 - Agricultural Pesticide Applicator Meeting, online 3/18/25 (138)
 - 10 online recertification courses, on-demand (3) <http://go.uvm.edu/pseponline>
- Pesticide Applicator Extension Outreach Education Outputs:
- 2 issues The Pesticide Applicator newsletter <http://go.uvm.edu/psep> (1280 subscribers)
 - 3 presentations
 - Green Pest Control. Pest Management Professionals Meeting, 10/8/24 (148)
 - Nurturing Nature in Our Lawns. UVM Extension Master Gardener Conference 12/7/24 (108) <https://youtu.be/2U6Gm8eA2RQ>
 - Pesticide Certification Intro. ALE 2810 4/15/25 (18)
- Northeast Vegetable IPM Working Group:
- Northeast Vegetable IPM Working Group meeting online 4/22/25 (30)
 - Education, research, and regulatory priorities pending 2025
- Pest Diagnostic Extension Outreach Education Outputs:
- 800 in-person IPM outreach
 - 4 articles for VT Nursery and Landscape Assoc
 - 9 press releases for general public
 - Seasonal weekly contribution to regional and state-wide vegetable listservs
 - Update of disease info for NE Management Guides <https://nevegetable.org/>, <https://www.umass.edu/agriculture-food-environment/fruit/ne-small-fruit-management-guide>
- Soybean Disease Survey:
- Participating farms identified, pending 2025
- Greenhouse/High Tunnel IPM First and Forever:
- 40 one-on-one consultations

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Animal Agriculture On-Farm IPM Assessment:

- 3 farm visits to discuss grazed pasture protocols, assessment needs
- 10 farms enrolled (6 VT, 4 NY), pending 2025

Livestock IPM Pasture Walks:

- Planned with Xerces Society, pending 2025

Type

Other

DOI or Other Persistent Identifier

Associated Publication DOI(s)

Author ORCID(s)

Description

Objective 2. Increase IPM Awareness and Adoption for New Audiences -

Master Gardener Course:

- Ongoing (189), evaluation pending 2025

Community Ask-an-EMG Information Stations:

- VT Flower Show table, 3/7-9/25 (1,639)

Master Gardener Helpline:

- 737 gardening questions

Pesticide Applicator Certification Meetings, Online Courses:

- Initial Pesticide Certification Meeting, in-person/hybrid 4/8/25 Rutland (11), Brattleboro (15), St. Johnsbury (16), Burlington VT (33)
- 5 online study courses, on-demand (47) <http://go.uvm.edu/pseponline>

Master Gardener Course IPM and Pesticides Module:

- Delivery pending 2026

Plant Diagnostic Clinic Diagnostics:

- 600 samples diagnosed, IPM information provided

Master Gardener Course Pest Diagnostic Module:

- Plant Pathology and IPM online lecture and Q&A session (200)

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Objective 3. Develop the Next Generation of IPM Scientists and Educators -
Tree Fruit/Grapes Program Intern, Program Graduate:

- 3 students (1 undergraduate, 1 MS, 1 PhD) trained in orchard/vineyard IPM practices and Extension systems
- 2 department seminar presentations
- 2 professional meeting presentations
- 4 IPM bulletins authored or co-authored
- 10 apple growers trained on insect monitoring and delivered IPM traps for 2025 growing season

- Maintained VT-NEWA network which facilitates real-time on-farm IPM implementation
- Administered pesticide credits for New England Fruit Consortium webinar series

Greenhouse/High Tunnel Program Post Doc:

- Learned how to recognize and scout for natural enemies and pests in habitat plantings around high tunnels
- Assisted with Tristate Greenhouse IPM Workshop survey analysis, and gained knowledge on how to assess impact
- 1 presentation at the Tristate Greenhouse IPM Workshop
- 2 articles co-authored in grower newsletters

Animal Agriculture Program Post Doc:

- Participated in planning for seasonal activities and one-on-one livestock IPM

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training with farmers.

IPM and Pesticides Course:

- UVM ALE 3990 Pesticide Applicator Certification Training course syllabus approved, delivery pending 2026.

Pest Diagnostic Program Intern, Program Post Doc:

- Assisted in Plant Diagnostic Clinic diagnostics, preparing IPM educational materials, presentations, preparation of IPM grants, and participation in farm visits.

Changes/Problems

- No changes of note for program areas