

Vermont IPM Report 2017-2018
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- **The Multidisciplinary Vermont EIP Addressing Stakeholder Priorities and Needs for 2014-2017.**
Project areas: Agronomy, Specialty (Apple/Grape; Greenhouse; Communities), Plant Diagnostics
- **Vermont IPM EIP: 2017-2020. Project areas:** Agronomy; Specialty (Fruit; GH) Communities; IPM for Pollinator Health; Pest Diagnostic Facilities and IPM Ed. for Pesticide Applicators

Agronomy Accomplishments/Outputs

Agronomy Field Days

- Annual Crops and Soils Field Day, Alburgh, VT. 4.7.17. 302 attendees.
- Harvesting and Malting Barley, Monkton, VT. 8.22.17. 23 attendees.
- Organic Dairy Series-Beidler Family Farm, Randolph, VT. 8.30.17. 30 attendees
- Hemp Fest, Burke, VT. 9.9.17. 175 attendees

Agronomy Winter Conferences

- 8th Ann. Hops Conference, Burlington, VT, 2.25.17. 177 attendees + 19 in Live Broadcast.
- 13th Annual Grain Growers Conference-Essex, VT, 3.23.17. 132 attendees + 17 in Live Broadcast.
- 9th Annual Hops Conference, Burlington, VT, 2.16.18

Agronomy Web Resources

- 20 research reports on pest management on grains, hops, oilseeds; 14 Hop Blog Posts; 5 grains, beans, oilseeds pest management blog posts; 40 hops, grains, beans, oilseeds facebook posts

Grain Disease Survey

- Scouted wheat/barley/spelt at 7 VT, one Mass. and one NY farm; scouted dry beans in 2 VT farms; scouted hops in 6 VT and one Mass. farm; ID pathogens with the Plant Diagnostic Clinic.

Loose Smut Seed Lot Testing

- Two contaminated seed lots sent for testing using embryo count method: GH trials to determine the efficacy of steam treatment to control loose smut.

Updated Guides of Pests in northeast for oilseeds, grains, hops-Oilseed Field Guide; Field guide for growing grains; "Hop arthropod pest field guide; "Dry Bean Production Guide"

Impacts

Agronomy Field Days

- 100% learned new information; 90% intend to make a change based on what they learned; 67% improved grain quality and farm economics as a result of previous field days.

Agronomy Winter Conferences

- Hops Conference: 56% improved scouting skills; 67% reduced pest pressure; 71% improved pest ID skills, 63% used crowning to control downy mildew.
- Grain Growers Conference: 100% learned new information; 80% intend to adopt a new practice; 39% improved quality, 44% improved soil health, 33% improved weed mgt. strategies.

Grain Disease Survey: Grain/dry bean pests were ID during the 2017 growing season; scouted farms minimized pesticide application or adopted new pest control strategies.

Loose Smut Seed Lot Testing: One of two contaminated lots tested positive, indicating better testing methods are needed.

Apple/Grape Accomplishments/Outputs

Apple Extension, Outreach, Education

- 10,426 page views of UVM Fruit: Tree Fruit, January 2017-March 2018
http://www.uvm.edu/~fruit/?Page=treefruit/tf_home.html&SM=tf_submenu.html
- 162 email addresses subscribed to vtapplegrower@list.uvm.edu; 32 blog posts providing IPM guidance, promoting IPM tools, advertising workshops/meetings; 3 blog posts on Cornell's NEWA for disease management; 51 one-on-one consultations; 1 fact sheet on non-chemical weed management
- Annual revisions of the New England Tree Fruit Management Guide, released April 2018
- Session planning/ presentations: VT Tree Fruit Growers Assoc. meeting, Middlebury, VT, 2.15.18.; VT Tree Fruit Grs. Assoc. meeting, Middlebury, VT, 2.16.17; E. NY Commercial Hort. Program Champlain Valley, NY, 5.23.17.; U.S. Assoc. of Cider Makers Conf.: Chicago, IL. 2.9.17.

Apple IPM Guideline Assessment: 3 selected growers responded to a follow-up online IPM assessment.

Grape Extension, Outreach, Education

- 2,655 page views of UVM Fruit: Grapes, 1/17-3/18
http://www.uvm.edu/~fruit/?Page=grapes/gr_home.html&SM=gr_submenu.html ; 270 subscribed to vermontgrape@list.uvm.edu; 16 blogs providing IPM guidance; 3 blogs on NEWA/disease; 23 consultations; 2 Am. Soc. of Hort. Sci. HortIM fact sheets; planning/IPM presentations at: NY/ VT Winter Grape School, Lake George, NY, 3.29.17. 44 attendees.

Grape IPM Guideline Assessment: 3 selected advisory stakeholders responded to a follow-up online assessment surveys to track adopted IPM practices.

Impacts

Apple Extension, Outreach, Education

- 2018 VT Tree Fruit Growers Assoc. meeting: 90-100% of participants indicated mod./considerable knowledge following presentations on Pollinator Habitat (71% increase), Trunk Boring Insects (38%), Implementing Monitoring (23%), Bee Pollination (57%), Growing Cider Apples (32%); 50% will consider changing IPM management practices for cider fruit.
- 2017 VT Tree Fruit Growers Assoc. meeting: 90-100% indicated mod./considerable knowledge after presentations on Lepidopteran Complex (26% increase), Apple Scab (8%), Fire Blight (36%), Insect Pests (20%); 57% changed Lepidopteran management practices to improve timing of pest management, improve confidence in making pest management decisions and improve crop quality; 63% of participants changed fire blight management practices; 14% changed insect pest management practices; 29% changed apple scab management practices (pesticide selection), most often to improve confidence in making pest management decisions and decrease pesticide use.

Apple IPM Guideline Assessment: 2% increase in average online assessment survey scores indicate adoption of new IPM practices by selected advisory stakeholders. Improvements in monitoring, insect management, and vertebrate management were reported on average.

Grape Extension, Outreach, Education

- NY & VT Winter Grape School, Lake George, NY, March 9, 2017: 95% rating by participants for value of topic (Grapes Disease Mgt., Minimal Spray Program); 52% said IPM topics important (disease ID, fungicide resistance management, spray timing)

Grape IPM Guideline Assessment: 20% increase in average online assessment survey scores indicate adoption of new IPM practices. Improvements in all categories of IPM practices were reported.

Greenhouse Accomplishments/Outputs

IPM First for Greenhouse Ornamentals

- 10 new operations enrolled. 17 past operations continue to receive guidance.
- Over 80 site visits at 24 different farms, reaching 37 growers in 11 of the 14 VT counties.
- 4 presentations on native beneficials in plant-mediated IPM systems. >200 attendees.
- 2 twilight workshops on habitat plant systems/aphid IPM in GH/high tunnel. >100 attendees.
- Serve on tech school advisory committee developing IPM curriculum for GH production courses.

Tri-State Greenhouse IPM Workshops

- 21th annual event held in ME, NH, VT reaching over 150 attendees.
- 3 hand-outs on ID of naturally-occurring beneficials, using habitat plants in greenhouses.

Green Industry IPM ambassadors

- 14 sites received support for IPM adoption and serve as ambassadors. >30 site visits
- 1 demo on natural enemies/pests attracted to habitat plantings. 6 students, 2 educators.
- Habitat plantings established at 4 commercial nurseries to promote natural enemies.
- 1 education sign produced: providing habitat for native beneficials of landscape/nursery pests.
- 1 landscape brochure produced about un-bee-lievable pollinators

Regional IPM Workshops for Landscapers

- 3 presentations on habitat plantings for non-bee pollinators at Tri-State GH IPM Workshops.

Website & social media updates

- Over 10,000 hits on greenhouse/high tunnel/landscape IPM webpages
- Over 3,976 followed on Facebook

Impacts

IPM First for Greenhouse Ornamentals & IPM Ambassadors: 78% use plant-mediated IPM (an increase from 67% with minimal prior knowledge); 100% use biological controls (an increase from 56-78% with little prior knowledge); 89% now regularly scout for pests; 71% claim lack of knowledge about IPM implementation limits use; 43% lack of time, 29% lack of money; One participating site reduced chemical pesticide use over 50% in one season by incorporating routine scouting and rotation of chemistries (had previously relied solely on prophylactic chemical applications); 2 bio control tours for growers and the public conducted by grower participating in IPM First program

Tri-State Greenhouse IPM Workshops: Workshop received 84% usefulness rating for solving pest problems and the program an 82%; 92% learned new techniques; 71% attended past workshops. Of the past workshop participants: 88% increased biological controls; 83% decreased chemical pesticides; 78% increased plant-mediated IPM systems; 93% improved scouting, 97% improved pest ID skills, 93% improved disease ID and 93% improved nutrient management; 42% of workshop attendees indicated they used a University plant disease or insect id service/clinic in the past year

Communities/Master Gardener Accomplishments/Outputs

MG Course IPM Lectures: 107 students across the state completed the 2017 MG Course; 85 students are currently enrolled in the 2018 MG course 15 modules/16 weeks.

MG Outreach: 270 MG volunteers logged 11,201 hours at 102 projects making 30,589 contacts with the public about home gardening, pesticide reduction, water quality, sustainable landscapes.

MG Helpline: 1,061 questions answered, 88 specimens resolved through the Helpline, 1.1.17-12.31.17

Master Gardener Advanced Training IPM Webinars: Two: Soil Tests and Tree Diseases and Pests.

Impacts

Master Gardener Course IPM Lectures: 46% of 2017 students did not know what IPM was before the course; 98% intended to adopt a new IPM practice

Master Gardener Helpline: 93% of 2017 MG Helpline clients indicated the information they received helped them use IPM to manage their pest problem; 70% were able to reduce the use of pesticides.

Plant Diagnostic Clinic Accomplishments/Outputs

Plant Diagnostic Clinic Samples

- ~500 samples diagnosed with IPM information provided to commercial growers, Master Gardeners, general public; ~100 pictures of plant issues diagnosed for commercial growers.

Plant Diagnostic Clinic Extension Presentations/Workshops

- IPM presentations at 15 meetings/workshops >500 attendees.
- Across the Fence Extension Television programs-Six on IPM/pests/diseases.
- Two radio public service announcements (PSA) on pest/disease issues
- Plant Disease, IPM and Pesticide lecture for Master Gardener Course. 100 students.

Contribution to Newsletters/Publications

- Bi-weekly VT Vegetable and Berry Newsletter column on current/emerging disease/insects/weeds and IPM. 750 New England growers.
- Contribution of Vermont pest and disease info for the weekly UMASS Veg Notes.
- Quarterly columns on disease and pests for the Vermont Nursery and Landscape Association.
- Contributor to the New England Vegetable and Small Fruit IPM Guidelines.

Impacts

Plant Diagnostic Clinic disease/insect/weed diagnostics

- Home Garden PDC Survey: 97% of clients indicated their pest issue was identified; 93% chose an IPM practice; 70% reduced their use of a pesticide as a result of diagnosis.
- Commercial Grower PDC Survey: 96% of clients indicated their pest issue was identified; 92% adopted the use of an IPM practice; 73% reduced use of pesticides as a result of the diagnosis.

Stakeholder groups

- 92% of targeted stakeholders indicated they had adopted an IPM practice as a result of diagnosis; grape researchers and growers had 'considerable' knowledge gain of grape pests from a NY/VT grape meeting; an increase from 'minimal' knowledge indicated before the meeting.

Plant Diagnostic Clinic Extension presentations/workshops

- 72% of field/forage pest specialists indicated increased IPM knowledge as a result of presentations.