

**University of Vermont State Report 2015**  
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**Major goals of the project:**

The major goals of the VT EIPM project are to increase the adoption of IPM practices in a variety of crops and settings to reduce the amount of pesticides used and to lower costs while protecting the environment and human health. The VT EIP project areas include grains, oilseed, and hops; apples and grapes; greenhouse and landscape operations; communities (Master Gardener); and plant diagnostics.

**Accomplishments under these goals for Year 1: See entire report @ <http://pss.uvm.edu/EIPM/>**

All project areas held workshops/presentations that increased knowledge of IPM topics. Some highlights include:

**Agronomy**

1. Growers at the "Agronomy Winter Conference" have improved grain quality as a result of implementing practices highlighted. Results showed:
  - 44.68% growers were going to grow more grains and 38.80% of growers were going to change crop rotation as a result of information learned.
  - 48.15% improved grain quality as a result of implementing practices highlighted at the conference including proper cultivar selection, better rotations, and timely harvest.
  - Comment from one grower at the Conference- "This conference is a highlight of my year. It is so remarkable that such a good event is devoted to such a fringe agricultural endeavor."
  - Comment from one grower at the Conference- "I thought it was great that you were able to target both beginners and experienced folks."
2. The "Grain Disease Survey" identified pest issues of importance. The survey was followed by training of farmers to identify arthropods and diseases in the field.
  - Diseases were identified in the fields that were previously unknown to farmers (tan spot, Septoria sp., leaf rust) and arthropod pests (thrips, mites, leaf beetle, grain borer).
  - Farmers learned how to identify these pests/diseases.

**Apple**

1. Results of a survey from the Vermont Tree Fruit Growers Association annual meeting:

Percent of participants with moderate/considerable general knowledge following presentations:

  - 81% use and fit of new SDHI fungicides (49% increase)
  - 74% use of plant growth regulators (44% increase)
  - 90% on managing fireblight in modern orchard plantings in the ages of antibiotic resistance (57% increase)
  - "Information was very pertinent to issues of recent season."

**Grape**

1. Results of a survey from the Vermont Grape and Wine Council annual meeting:

Percent of participants with moderate/considerable general knowledge following presentations:

  - 96% Learned how to ID Phomopsis symptoms (67% increase)

- 96% Learned how to ID Anthracnose symptoms (50% increase)
- 100% Learned how to ID Black Rot symptoms (33% increase)
- 100% Learned how to ID Powdery Mildew symptoms (30% increase)
- 100% Learned how to ID Downy Mildew symptoms (30% increase)
- "I needed the review regarding pest control and the types."
- Comment from a grower at the meeting- "Broadened my grape growing knowledge and provided specific examples of IPM practices related to grapes."

## Greenhouse

### 1. IPM First for Greenhouse Ornamentals Program

- On the pre-program questionnaire, growers at 2 sites indicated they had minimal-moderate knowledge about basic IPM components and 1 site indicated their knowledge was none-minimal.
- One participating grower is transferring IPM knowledge to the public, high school students and other growers. She works with a local school to produce aphid banker plants, which are used in production houses during the growing season. Three tours were held for growers and customers interested in learning about IPM and how to use biological control and limit pesticides.
- Plant-mediated IPM systems are now used by 10 participating growers, which reduces their use of pesticides and increases crop quality.

All sites now rely on primarily on biological control agents for IPM.

### 2. Tri-State Greenhouse IPM Workshops

- Up to 98% of "Tri-State Greenhouse IPM Workshop" attendees have increased use of biological controls and plant-mediated IPM systems, decreased chemical pesticide use, and improved scouting programs and insect/disease identification
- A survey among growers who attended past workshops indicated that 85% increased use of biological controls, 69% increased use of plant-mediated IPM systems, 70% more effectively use fertilizers, 79% decreased chemical pesticide use, 90% improved their scouting programs, 98% improved insect id, 88% improved disease id and 82% improved diagnosis of nutrition deficiencies.

## Landscape

As a result of a "Regional IPM Workshop for Landscapers", one professional arborist is currently testing predatory midges against aphids on street trees to reduce public complaints. 87% of the attendees learned new techniques they intend to use in the coming year, including predatory midges for aphids and predatory mites for spider mite.

## Communities/Master Gardener

### 1. MG Course IPM Lectures

The pre-course survey results reflect that 71% of students self-identified as being unfamiliar with the concept of Integrated Pest Management prior to the class.

The post-course survey results:

- 99% report that the course gave them a better understanding of how to incorporate IPM practices.
- 83% have changed specific garden practices to better incorporate IPM.

- 95% were able to name a specific IPM practice for managing white grub in lawns and tomato late blight.
2. MG Advanced Training Webinars-3 Advanced IPM training webinars were offered for volunteers working on the toll-free Master Gardener Helpline.

## **Plant Diagnostic Clinic (PDC)**

1. PDC disease/insect/weed diagnostics
  - 98% increased knowledge of a pest or disease through use of the PDC.
  - 74% found the information provided on IPM with the sample diagnosis resulted in use of less pesticides.
2. Increase use of PDC by targeted stakeholder groups
  - 10 apple growers, 3 grape growers and 10 landscapers have submitted samples. This exceeds the 20% targeted increase for these grower groups.
  - At the Vermont Grape and Wine Council annual meeting 92% of participants indicated moderate/considerable general knowledge following presentation on UVM Plant Diagnostic Clinic services (71% increase)
3. **Plant Diagnostic Clinic Extension presentations**

Vermont Vegetable and Berry Growers annual meeting:

- 84% learned an IPM tool that will help improve pest management
- 94% adopted a new IPM practice that reduces pesticides since the last annual meeting
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Field and Forage Disease and IPM workshop:

- 88% increased their knowledge of IPM practices
- 77% increased their knowledge of safe pesticide practices.
- 70% adopted a new IPM practice since the last annual meeting that reduced pesticide use.

Vermont Grape and Wine Council annual meeting:

Percent of participants with moderate/considerable general knowledge following presentations:

- 88% Using FRAC/IRAC codes for resistance management (38% increase)
- 92% Signal Words on pesticide labels (42% increase)