including a first report of stripe rust for NE. Informational materials were distributed to 500 growers through the Northern Grain Growers Association newsletter and our website.

- A field day held at Borderview Research Farm highlighted grain production and research. Leaf diseases and FHB issues were highlighted. Factsheets on stripe rust and info were distributed to 75 attendees.
- Leaf diseases of perennial grass hay crops were assessed during the summer and fall on two grass species/cultivar trials.
- A winter meeting in 2013 was held to highlight disease issues in corn, soybeans and grass hay crops. Leaf blights and molds as well as grass were the focus of the presentation. There were 82 attendees at the day- long workshop.

Consumer IPM
Ann Hazelrigg and Heather Carrington

- Master Gardener Course – 160 students are currently enrolled in the 13 week Master Gardener course. Three lectures specifically dedicated to basic IPM topics have been provided: Plant Pathology & IPM and Soil Science and Composting and Entomology.
- Master Gardener Helpline – Between April and December of 2013, 159 plant disease and insect specimens were routed through the helpline for identification and IPM recommendations. During 2013, the Helpline volunteers assisted 1,029 callers with home horticulture questions, and answered 315 emails, using IPM as their guiding principle. Two advanced IPM trainings were provided for the Helpline volunteers and two new training webinars were provided and archived on the master gardener website for all volunteers.
- Master Gardener Outreach – In 2013, there were over 700 active EMG volunteers in Vermont who volunteer in a variety of vetted, science-based outreach programs all with a strong educational component based on IPM principles. Volunteers have reported 12,485 hours of education provided across the state. The value of these hours is $276,418 (based on the Independent Sector valuation of a volunteer hour). These EMG volunteers are active in the state forming connections and linkages with schools, agricultural fairs, farmers markets, community gardens, prisons, libraries, hospitals, condo associations and garden centers. They educate Vermonters about garden and landscape pest identification and management using IPM strategies. The Senior/Key Person and MG Outreach Professional have provided three advanced IPM training webinars to continue to meet the needs of these stakeholder communities.
- Master Gardener website – This website serves as a site for consumers and gardeners to access current and emerging insect and disease information on a timely basis. This is an impactful forum used to deliver new IPM pest factsheets on pests important to consumers including spotted wing drosophila, impatiens downy mildew, late blight, etc. Both basic and advanced IPM topics are addressed.
- Development of new email template – In 2013, the EMG Helpline volunteers began fielding email questions sent to the state office with a

science, 41% of survey respondents reported that they will have a soil test done this year, 38% reported that they will compost this year, and 67% do not use any pesticides in their gardens.

Specialty Crops-Greenhouse IPM
Margaret Skinner and Cheryl Frank

- 10 commercial greenhouse operations received one-on-one education on pest and natural enemy identification, scouting, sanitation, pesticide toxicity, development or refinement of biological control programs, use of plant-mediated IPM systems, and strategies for reduction of costs associated with implementing IPM and biological control.
- New IPM practices were adopted by participants, use of sticky cards, trap plants for early pest detection, routine scouting, banker plants for natural enemies, sanitation and rouging of infested plants and refinement of biological control and pesticide programs.
- The number of applications of chemical pesticides made by participating growers was reduced at all locations. Growers relied more on biological control or spot sprays.
- All growers participating in the program used some form of biological control. Growers at 3 operations switched from a conventional chemical

- Organic Apple IPM observations were distributed in 10 organic apple newsletter issues to over 100 organic stakeholders during the past year and archived on the Organic Apple IPM website where they had an additional 313 visits.
- Updated and maintained the Organic Apple IPM website which had 215 new visits and incorporated IPM information into a newly developed Practical Guide for Organic Apple Production which had 1084 new visits by stakeholders.
- Organic and IPM Apple Demonstration Orchards were maintained and used as a resource for educational purposes.
- Provided 64 one-on-one consultations regarding growers' apple IPM questions by phone, email, or in-person.
- Evaluation and Impacts; Recent survey of growers revealed 88% would adopt reduced-risk IPM strategies as a result of the Apple IPM Program.

Specialty Crops-Cold Climate Grape IPM Program
Lorraine Berkett and Terence Bradshaw

- 9 issues of the Grape IPM Update were written and disseminated during the reporting period to over 200 growers who subscribed to the Grape IPM email listserve, and archived on the Cold Climate Winegrape IPM website where they had 715 additional visits. 36 additional posts made to mailing list on IPM and production-related topics.
- Updated and maintained the Grape IPM website pages which had 284 new visits.
- Provided 35 one-on-one consultations regarding grape growers' IPM questions by phone, email, or in-person.
- Evaluation and Impacts; Recent survey (2012) of growers revealed 87% would adopt a new IPM practice as a result of the Grape IPM Program.