Title: Plant Disease Diagnostics

Project Leader: Nicholas Brazee

Project Overview

The University of Massachusetts Amherst recognizes the importance of reliable and prompt diagnosis of plant problems for the turf, floriculture, vegetable, nursery, urban forestry and landscape industries. We serve farmers, horticulturists, landscape contractors, turf managers, arborists, nurseries, and others in agriculture and the green industries. In addition to disease diagnostics, we offer management recommendations and best management practices for diseases and insect pests.

Activity Summary – 2014

- Contribute new material and update UMass Center for Agriculture websites (Agriculture & Landscape, Greenhouse, Turf, Vegetable, Urban Forestry) (2)
- Contribute to extension publications including (but not limited to) Landscape Message, HortNotes, VegNotes, Mayflower, and TurfTalk. (5)
- Contribute content (articles and photos) to the Landscape, Nursery and Urban Forestry Facebook page. (1)
- Designated USDA Animal and Plant Health Inspection Service (APHIS) Plant Protection and Quarantine (PPQ) lab for phytosanitary certification of freedom from the pine wilt nematode (Bursaphelenchus xylophilus) of pine lumber for export to China (75)
- Forest and Landscape Tree and Shrub Disease Workshop (1)
- Invited talks to commercial vegetable growers and commercial greenhouse operators. (4)
- Invited Talks to arborists, urban foresters, landscape professionals, retail garden center employees, nursery managers and landscape designers (12)
- New England Grows, Massachusetts Tree Wardens and Foresters Association, Massachusetts Nursery and Landscape Association, Massachusetts Christmas Tree Growers Association and New England Vegetable and Berry Growers Association Conferences (5)
- Participate in IPM grant by providing diagnostic support to Specialty Crops (1)
- Participate in National Plant Diagnostic Network, Northeast Region by attending annual meeting, participating in exercises, conducting First Detector Training, and entering information into national database (1)
- Provide pathogen identification, disease diagnosis, and management recommendations (1200)
- Respond to telephone and e-mail inquiries from commercial growers and the general public. Output possibly includes interviews with the media (500)
- Woody Plant Disease Management Guide (1)
- Smart phone App for greenhouse disease and fungicides (1)
**Total Educational Contacts**

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<th>Adult Contacts</th>
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<td>In Person</td>
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<td>Indirect Contacts (Print, Web, etc...)</td>
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**Narrative Summary and Impact**

The UMass Extension Plant Diagnostic Lab continues to fulfill its primary mission of providing fast, reliable diagnosis of plant problems and detailed diagnostic reports outlining environmentally sustainable management techniques. Sample submitters receive education on the specific plant pathogen involved and management tactics tailored to the organisms or organisms found. Diagnostic lab staff participate in many educational outreach programs including invited talks, IPM walkabouts, printed and electronic publications, editing technical manuals, and updating plant pathology fact sheets on many different CAFE websites. In 2014, two hands-on diagnostic workshops were held which were well received by the green industry. Participants in educational outreach opportunities learn about the specific nature of plant problems and environmentally sustainable disease management. Membership in the National Plant Diagnostic Network provides staff with updates on exotic and quarantine pests, presents educational opportunities for professional development, and allows lab staff to educate growers about exotic and/or newly emerging diseases. Diagnostic support to the Vegetable and Fruit IPM grant educates extension staff and growers about the nature of specific plants problems and their management as well as environmentally sustainable techniques for disease management. Current research by laboratory staff is focused on issues of primary concern to professionals in the green industry (arborists, landscapers, and nursery owners) and area farmers.

**Collaborating Organizations**

- New England Grows
- Massachusetts Nursery and Landscape Association
- Massachusetts Tree Wardens and Foresters Association
- New England Vegetable and Berry Growers Association