

Project Title: Plant Disease Diagnostics

Project Leader: Nick Brazee

Project Overview

The first step in effective disease management is an accurate diagnosis. The University of Massachusetts, Amherst recognizes the importance of reliable and prompt identification 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 plant disease and insect diagnostics, we also provide sound management strategies that utilize an integrated pest management approach. This includes cultural and chemical controls, when necessary. An emphasis is made to utilize management strategies that limit the input of insecticides, fungicides, bactericides and fertilizers into the landscape.

Activity Summary 2019

- Contribute to and update UMass Center for Agriculture websites (Agriculture & Landscape, Greenhouse, Turf, Vegetable, Urban Forestry) (5)
- Contribute to extension publications including (but not limited to) Landscape Message, HortNotes, VegNotes, Mayflower, and TurfTalk (48)
- Designated USDA-APHIS-PPQ lab for phytosanitary certification of freedom from the pinewilt nematode (*Bursaphelenchus xylophilus*) of pine lumber for export to China. (50)
- Invited talks to commercial vegetable growers and commercial greenhouse operators (9)
- Invited Talks to landscape professionals, retail garden center employees, nursery managers, landscape designers. (Single day workshop, presentation or event) (10)
- Participate in IPM grant by providing diagnostic support to Specialty Crops (25)
- Participate in National Plant Diagnostic Network, Northeast Region by attending annual meeting, participating in exercises, responding to new pest alert notifications, and entering information into national database. (5)
- 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)
- Editor Disease section of New England Vegetable Management Guide. (1)

Total educational contacts

	Adult Contacts
Direct Contacts	1615
Indirect Contacts (Print, Web, etc...)	8500

Narrative Summary and Impact

During this past reporting period, the UMass Extension Plant Diagnostic Lab continued to fulfill its primary mission of providing accurate and timely diagnoses of plant problems and detailed diagnostic reports outlining environmentally sustainable management techniques. Sample submitters receive education on the specific plant pathogen, insect pest or abiotic stress involved and management tactics tailored to the organism(s) found. Diagnostic lab staff participated in many educational outreach programs, which included: invited seminars for various trade groups, twilight walks to discuss disease and insect pests, printed and electronic publications, performing site visits for disease identification, editing technical manuals, and updating plant pathology fact sheets on many different CAFE websites. Applied research projects conducted through the Plant Diagnostic Lab focused on major pathogens of concern to landscape professionals and vegetable growers. Participants in educational outreach opportunities learn about the specific nature of plant problems and environmentally sustainable disease management. Numerous landscape professionals, vegetable growers and turf managers express their gratitude for the service we provide. Many of these individuals often tell us that they could not do their job without the diagnostic and management assistance we provide. 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.

Collaborating Organizations

- National Plant Diagnostic Network, Northeast Region
- Massachusetts Nursery and Landscape Association
- New England Grows

