

# Plant Disease Diagnostics

Status: NIFA REVIEW

## Project Director

Nicholas Brazee

## Organization Project Number

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## Accession Number

7002099

## Start & End Date

10/01/2020

## Organization

University of Massachusetts

## To Project / Program

"Plant Disease Diagnostics"

## Primary Critical Issue

Sustainable Agriculture and Food Systems

## Fiscal Year

2022

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### In 2-3 sentences, briefly describe the issue or problem that your project addresses.

The decline and death of plants from disease, insects and environmental stresses has many detrimental effects. These adverse effects range from economical to environmental and span from agricultural to forest settings. For example, pathogen outbreaks at commercial farms result in reduced earnings, lower vegetable yields and greater reliance on crops grown outside the region. Additionally, the introduction of invasive insects of trees can result in widespread mortality, dramatically transforming residential landscapes and having major ecological impacts on forests.

### Briefly describe in non-technical terms how your major activities helped you achieve, or make significant progress toward, the goals and objectives described in your non-technical summary.

In FY22, the UMass Plant Diagnostic Lab continued to fulfill its primary mission of providing reliable and accurate diagnoses of plant problems caused by diseases, insects and environmental stresses. As always, the lab provides detailed diagnostic reports outlining the biology and ecology of the pathogen/insect pest, when present, and environmentally sustainable management techniques. Sample submitters receive education on the specific plant pathogen or insect pest involved and management tactics tailored to the organisms found, age of the plant and specific site conditions.

### Briefly describe how your target audience benefited from your project's activities.

Numerous landscape professionals, vegetable growers, greenhouse managers and turfgrass supervisors express their gratitude for the services we provide. Many of these individuals often tell us that they could not do their job without the diagnostic and management assistance we provide. Participants in educational outreach programs learn about the specific nature of plant problems and environmentally sustainable disease management. They apply this knowledge and techniques in their business to meet the needs of their clients.

### Briefly describe how the broader public benefited from your project's activities.

The public benefits from the actions of the UMass Plant Diagnostic throughout healthier vegetables, fruit, greenhouse plants and trees and shrubs. Better educated and informed green industry professionals can better serve their clients in the public sphere. We also seek an integrated pest management approach that reduces the use of pesticides applied in managed landscapes. We offer a broad array of online content that is widely available to a general audience.

## Comments (optional)

- Updates to CAFE Websites (15) - 5000 Participants
- Extension Publications - contributions to Landscape Message, HortNotes, VegNotes, Mayflower and TurfTalk
- Invited Presentations to landscape professionals, retail garden employees, nursery managers, landscape designers (12) - 1500 Participants
- Participate in IPM grant by providing diagnostic support to Specialty Crops (30) - 5 Participants

- 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) - 100 Participants
- Green School (5) - 140 Participants
- Provide pathogen identification, disease diagnosis and management recommendations (1265) - 650 Participants
- Respond to telephone and email inquiries from commercial growers and the general public. Output possibly includes interviews with the media (500) - 150 Participants