

Master Gardeners, Master Detectives: Evaluating and Enhancing Volunteer Plant Diagnostic Skills

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Introduction

The UF/IFAS Extension Orange County Plant Clinic is vital in supporting our growing community's gardening needs. With nearly 2,000 clients annually, our dedicated Master Gardener Volunteers (MGVs) process samples and offer expertise. Therefore, bolstering their proficiency and confidence related to plant diagnostics is essential.

Methods

A pre-workshop survey was administered to 79 MGVs to evaluate their interest, confidence, and knowledge regarding plant triage processes, pest identification and management, and other plant diagnostic topics (Fig.1).

Based on the survey findings, a three-hour training workshop was then designed and delivered, covering:

- Fundamentals of plant diagnostics
- Basics of plant pathogens
- Pest identification techniques
- Key referral resources

A post-workshop survey was administered to assess gains in knowledge and confidence.

Targeted training boosted MGV confidence and skills in diagnosing plant problems.



Figure 1. Images of various plant pests and diseases used in survey identification questions.

Photos courtesy of UF/IFAS and Bugwood.org.

Results

- Pre-workshop survey results (92% response rate, n=73) revealed:
 - Strong interest in plant diagnostics and pest management (both 94%), but low confidence in pest (33%) and disease identification (28%).
 - A need for additional training in pests (86%), diseases (94%), and abiotic issues (89%).
 - Over half were unaware of relevant UF experts for insect ID (55%), plant pathology (55%), nematology (67%), and plant ID (57%).
- Sixty-four Master Gardener Volunteers attended the 3-hour training workshop.
- Post-workshop assessments showed notable improvements: 90% could distinguish pest and disease signs vs. symptoms, 80% accurately identified viral symptoms, and 64% improved diagnostic knowledge. Awareness of UF Faculty resources for plant pests and diseases increased by 48-63% across categories.

Discussion

This workshop effectively boosted MGVs' diagnostic skills, confidence, and preparedness to assist with gardening issues. By equipping MGVs with updated techniques and resources, they are better prepared to tackle complex plant health challenges and offer more informed guidance to the community.