

Impact

Sharing the difference CSU Extension makes in people's lives and their communities.

Improved plant diagnosis through advanced training

Enhanced plant diagnostic training is helping Colorado Master Gardeners more effectively resolve urban homeowner plant problems.

Issue

At county Extension offices around the state, Colorado Master Gardener (CMG) volunteers are the first to field homeowner questions about horticulture problems. However, diagnosing plant problems is not easy. Many symptoms look alike and proper identification sometimes requires advanced knowledge, skills, or even special equipment. For years, Colorado State University Extension horticulture agents have provided CMGs with advanced diagnostic workshops on garden, tree and lawn problems. Yet the inherent difficulty of plant diagnosis demands for a more structured approach to educate and organize a core group of CMGs who can better serve the needs and unique horticulture problems of Colorado homeowners.

Extension's Response

In 2009, CSU Extension received a one-year Integrated Pest Management (IPM) grant from the USDA. Part of the grant allowed Extension specialists and agents to develop a comprehensive CMG training program for advanced ornamental pest diagnostic education.¹ In 2010, an additional three years of funding was received to continue enhancing the CMG diagnostic training program. As a result, Extension specialists and agents created a two-tiered training program that progressively builds CMG diagnostic expertise of urban pest problems specific to the Front Range. In 2010, 65 CMG volunteers from eight Front Range counties participated in advanced diagnostics workshops.

In Tier 1, diagnostic volunteers complete basic CMG training and participate in the National Plant Diagnostic Network's "First Detector" training. In Tier 2, CMGs complete monthly daylong diagnostic workshops on lawns, conifers, ornamental annuals and perennials, and vegetables. Workshops typically include a morning lecture that is followed by an afternoon lab session in a classroom at one of the county Extension offices or at CSU. Some workshops feature a field trip to residential and commercial sites along the Front Range. During the lab training, volunteers use microscopes and digital equipment (when available) to observe and identify pests and diseases.



The Bottom Line

- The advanced plant diagnostics training program is growing a core group of volunteers who are trained to more effectively respond to the unique horticulture problems of Colorado homeowners.
- By advancing proper plant diagnostics through a comprehensive training program, CSU Extension is helping Colorado homeowners manage pest problems more effectively, thereby saving time and money.

By the Numbers

- Number of CMGs trained in advanced plant diagnostics: 65
- Percent of diagnostic clients who have shared what they learned with others: 76
- Percent of clients who manage landscape water more efficiently: 41

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Results from workshop pre- and post-tests indicate that volunteers are improving their diagnostic knowledge and skills and learning to more confidently diagnose homeowner plant problems. According to Mary Small, Jefferson County horticulture agent, one of the benefits of the program is that volunteers see many of the same issues over and over. This repetition reinforces learning, helps build each volunteer's knowledge base and increases confidence in answering homeowner questions. Also, Small says that lab trainings increase volunteer interest in diagnostics. "They get excited when they see, for the very first time, plant problems under the microscope," Small says.

According to Tamla Blunt, CSU Extension Plant Diagnostician, homeowners often mistreat their problems when they don't know the cause. Chemicals are often used, misapplied or not needed. In a 2009 follow-up survey of previous clients who used Extension diagnostic services, over 50 percent of respondents indicated they had decreased their pesticide use. Sophisticated diagnosis can also help homeowners understand how to prevent problems from occurring in the future by correctly growing ornamental plants, trees or vegetables from the start. With improved and more sophisticated diagnostic capabilities, homeowners can make better treatment choices.

Participating Counties

Adams County: Thaddeus Gourd, Interim County Director & Agriculture Agent, and Sharon Moore, Horticulture & Master Gardener Assistant

Boulder County: Carol O'Meara, Horticulture Entomology Agent

Jefferson County: Mary Small, Horticulture Agent

Larimer County: Alison O'Connor, Horticulture Agent

Weld County: Carrie Shimada, Horticulture Program Associate

Arapahoe County: Robert Cox, Horticulture Agent, and Mae Rauen, Horticulture Assistant

Pueblo County: Linda McMulkin, Horticulture Coordinator

¹ Extension horticulture agents along the Front Range have offered CMGs advanced plant diagnostic classes for over 10 years. This grant is the first step to creating a comprehensive CMG specialization in plant diagnostics.

Colorado State University Extension, U.S. Department of Agriculture and Colorado counties cooperating. Extension programs are available to all without discrimination. January 2011. Written by Carol Busch.

"After visiting your office, we were confident in taking your advice and watching our Green Ash for any 'rebounding' that it might do through the summer. We then contacted an arborist who helped us with the necessary trimming in early fall, and we were able to reshape and save our shade tree."

*– Homeowner and client
Jefferson County Diagnostic Clinic*

"The training program provides practice, practice and more practice—with instant feedback. I always learn something new and practicing the diagnostics improves my skills and confidence for diagnosing plant problems in the clinic."

*– Stanley Conway
Master Gardener, Jefferson County*

Contact Information

Tamla Blunt
CSU Extension Specialist
Department of Bioagricultural Sciences and Pest Management
(970) 491-6950
tamla.blunt@colostate.edu