

# **Preventing Unnecessary Pesticide Applications by Correctly Identifying Biotic Pests in Woody Ornamentals**

(A continuation of the 2008 grant 'Preventing Unnecessary Pesticide Applications by Correctly Identifying Abiotic Diseases and Environmental Stresses in Woody Ornamentals')

## **Project leader**

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## **Cooperators**

Utah State Pest Control Association

Utah Botanical Center

Ogden Botanic Gardens

Weber County and Cities

Davis County and Cities

Davis County Master Gardeners

Weber County Master Gardeners

## **Situation Statement**

Woody landscape plants make up the backbone of home landscapes. These plants are arguably the most expensive investment for homeowners and are commonly managed improperly, including unnecessary applications of pesticides. Improper maintenance and pesticide applications along with poor selection of plant material often lead to unnecessary plant stresses and weaken woody plants increasing their susceptibility to insect and disease infestations.

Many homeowners and Professional Control Operators (PCO's) apply pesticides to control insects and diseases that have come in as secondary invaders to abiotic disorders and environmental stresses. This past year an educational program and materials were developed to improve the identification of the top 10 abiotic problems and their possible treatments and corrective maintenance. The training taught homeowners, PCO's, government horticulture professionals, and others how to recognize and diagnose abiotic diseases and environmental stresses and incorporate proper control or avoidance measures. By proper plant selection and proper maintenance of landscape plants the unnecessary use of pesticides was reduced.

There are a few insects and diseases that are primary pest of selected woody plants in Northern Utah. Although these pests are few in number, they can cause major damage and are often a source of misapplied or over used pesticides . Proper identification is critical in developing an environmentally friendly yet effective treatment program. Training those who apply and recommend pesticides to recognize the most common insect and disease pests, and proper IPM control methods will continue to help reduce unnecessary pesticide applications.

## Objectives:

The main objective is to help horticulture professionals, PCO's, and Master Gardeners properly identify the most common insects and diseases and know the options available for their control. Through proper identification and an understanding of the pest, they can determine what, if any, control methods should be implemented.

However, the underlying motive is to get people to stop and think before they automatically grab a can of pesticide when they see a problem pest. The idea is to get them to first properly identify the problem before they ever try to treat it. It sounds odd, but many people start to spray before they even know for sure what the problem is. Not only homeowners, but many professionals never take the time to properly ID most pests. By training them to first look for abiotic problems, and then common insects and diseases, they should start to think before they start to spray. And if they stop to first properly identify, perhaps the next step is to get them to look at other options besides a spray. Change is a slow process, but this is a good way to get them pointed in the right direction.

The different ways we plan to achieve these objective are:

1. Develop two new posters and fact sheets to complement those developed in 2008 (Top Ten Abiotic Diseases of Woody Plants) [This fact sheet is currently under peer review]: Namely "The Top Ten Insect Pests of Woody Plants" and "The Top Ten Diseases of Woody Plants". The posters and fact sheets would be in the same format as the previous one. The fact sheets would be sent through the peer review process for publication. These posters would be on the walls of county buildings hopefully reminding those who see them to first IDENTIFY...
2. Disseminate the posters to all city maintenance professionals in Davis and Weber Counties and all interested Extension Agents. Make the fact sheets available to the public through the Extension offices and the Ogden Botanical Gardens and Utah Botanical Center. They will also be advertised through the websites of both gardens.
3. Train Master Gardeners to properly identify the 10 most common insect and disease problems in Northern Utah. They in turn will be better equipped to help homeowners.
4. Present the information to PCO operators at their annual winter meetings.
5. Present the information to Master Gardeners in both Davis and Weber Counties.
6. Include the information in the PowerPoint developed in 2008 to complete the educational curriculum package. This material will be in a format that can easily be adapted and taught by Extension Agents and other professionals.

This training will focus on Davis and Weber Counties, but it will be applicable to the rest of Utah and other intermountain areas. The focus of this program is two-fold. It is a diagnostic training program for professionals to reduce pesticide usage on woody landscape plants and can also be utilize to teach Master Gardeners and homeowners. The project will develop a training curriculum for use by Master Gardeners in the above-mentioned counties and additional counties throughout the state. It will also include a curriculum that they can use to train others.

Providing Master Gardeners with initial diagnostic training and supplying them with resource materials to educate others will provide a critical nucleus of well-trained people to help answer questions from the public.

**Procedures:**

1. Train 90 Utah State University Master Gardeners in diagnosing common insect and disease pests along the Wasatch Front. These workshops will be a part of the diagnostic training conducted in association with the basic Master Gardener class and also incorporated into advanced Plant Diagnostic Training for interested Master Gardeners. These Master Gardeners in turn will help the public as they volunteer at the different plant diagnostic clinics held in Davis and Weber Counties.
2. Train 100 professional pesticide applicators in identifying the common insect and disease pests in woody plants. The training will occur at the Utah Pest and Lawn Care Association (UPLCA) annual meeting on February 12 and 13, 2009. The training has already been scheduled and will focus on reducing pesticide use through proper identification and IPM control methods.
3. Develop and publish the posters “The Top Ten Insects of Woody Plants” and “The Top Ten Diseases of Woody Plants”. Disseminate these posters to the horticulture professionals of the Cities and Municipalities in Davis and Weber Counties. These posters will complement the one produced and given out in 2008
4. Develop and publish the fact sheets “The Top Ten Insects of Woody Plants” and “The Top Ten Diseases of Woody Plants”. Have these fact sheets peer reviewed and published for dissemination at Extension Offices.

**Data Analyses and Presentation of Results:**

1. The information will be presented to PCO’s in the state of Utah (at their annual meetings), Master Gardeners, Government horticulture professionals, and Master Gardeners.
2. The information will be available for all Extension Agents to utilize in their training.
3. Two fact sheets will be published (“The Top Ten Insects of Woody Plants” and “The Top Ten Diseases of Woody Plants”).

**Evaluation:**

- A. 1. Those individuals who receive the posters will be surveyed to determine their use.
2. Master Gardeners will be surveyed to determine their understanding of proper identification of insects and diseases.
- B. The intent of this proposal is to have more professionals and Master Gardeners able to properly identify the major pests of woody plants and be aware that there are different options for control. It is also designed to simply get them to be better at identifying problems before they treat.

**Educational Products:**

- 1. Two posters will be produced for use in city and county facilities and in extension offices and presentations in Davis and Weber Counties.
- 2. Two fact sheets will be produced and published through Utah State University.
- 3. Two PowerPoint’s will be produced and added to the one already produced to complete the “Pests of Woody Plants” curriculum. This curriculum will be made available to Utah Extension Agents (with the fact sheets).
- 4. The curriculum will also be made available to the Extension offices and agents in Southeast Idaho. These agents already work with us in Master Gardener Training and have expressed an interest in receiving the PowerPoints, fact sheets, and possibly buying the posters.

**Educational Outreach:**

- 1. The posters will be hand delivered to the municipalities as the Extension agents interact with those who took the training in 2008.
- 2. The fact sheets will be available on line and through Extension offices.
- 3. The PowerPoints and curriculum will also be available to Extension agents in Utah and Southeast Idaho.
- 4. The information will be presented at the Utah Pest and Lawn Care Association (UPLCA) annual meeting in January 2009.

**Budget**

Posters:	\$	2050.00
Printing of (60) smaller posters for cities (\$35 each)	\$	(2050.00)
 <b>Matching Funds from Other Sources</b>	 <b>\$</b>	 <b>700.00</b>
Master Gardener Advanced Training	\$	200.00
Master Gardeners Basic Training	\$	200.00
Urban Forestry Funds from Weber County	\$	300.00
 <b>REQUESTED FUNDING</b>		
IPM Mini Grant	\$	1,350.00

All funding required for classes and other materials will be supplied using Master Gardener training funds and Urban Forestry class funds from participants.