

Preventing Unnecessary Pesticide Applications by Correctly Identifying Abiotic Diseases and Environmental Stresses in Woody Ornamentals

Project leaders

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Cooperators

Utah State Pest Control Association
Utah Botanical Center
Ogden Botanic Gardens
Utah County Master Gardeners
Thanksgiving Point Advanced Master Gardeners
Tooele County Master Gardener Organization
Davis 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. As these stresses are superimposed on woody landscape plants; disorders such as nutrient deficiencies, temperature and environmental extremes, mechanical damage, excessive salts, and chemical damage, the plants become more susceptible to other problems such as secondary infestations of insects and diseases.

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 common practice is not only non-productive, it is environmentally irresponsible.

Training homeowners and PCO's how to recognize and diagnose abiotic diseases and environmental stresses will help them consider proper control measures. Also, by proper plant selection and proper maintenance of their landscape plants or those of their clients, the unnecessary use of pesticides in many cases can be averted.

Proper identification and diagnosis of common abiotic diseases is crucial for the reduction of pesticides applied to landscape plants. Training those who apply and recommend pesticides to realize that there are no pesticides that control these diseases is also critical for establishing good Integrated Pest Management program in our state.

Proper selection is crucial in having healthy plant material. In our arid environment, certain plants have a hard time adapting. Environmental extremes, as well as nutrient deficiencies, can make these marginal plants more susceptible to other environmental stresses, as well as insect, and disease problems. Pesticides are often unnecessarily applied to these plants which defeats implementation of a successful IPM Program.

Proper maintenance and care of landscape plants is also a very important aspect of plant health. Trunk injury due to mechanical or chemical damage and improper pruning cuts put woody plants at a higher risk of fungal decay organisms and secondary insect infestations.

This training will focus on Davis, Tooele, Weber and Utah Counties, but it will be applicable to the rest of Utah and other intermountain areas.

The focus of the program is two-fold. It will develop a diagnostic training program for professionals to reduce pesticide usage on woody landscape plants and will develop a similar program for homeowners to utilize in their own landscapes.

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 in abiotic diseases and environmental stresses then supplying them with resource materials to educate others will provide a critical nucleus of well-trained people to help answer questions from those who are hiring pesticide applicators or those who are doing their own landscape management.

Since woody plants are the backbone of any landscape and are commonly selected and managed inappropriately, this grant will supply special training in this area.

Objectives

- Develop a successful abiotic disease and environmental stresses diagnostic training plan for professionals and homeowners on a statewide basis.
- Train Utah State University Master Gardeners in diagnosing abiotic diseases and environmental stresses to reduce pesticide use in the landscape.
- Train Professional Pest Control Operators in avoiding unnecessary pesticide applications by correct identification and diagnosis of abiotic disorders and environmental stresses.
- Educate homeowners on the importance of how proper plant selection can reduce the use of pesticide use in their landscape design.

Procedures

- Train 80 Utah State University Master Gardeners in diagnosing abiotic diseases and environmental stresses common along the Wasatch Front. These workshops will be held between May and September of 2007. These Master Gardeners in turn will train the public by teaching workshops at Thanksgiving Point Gardens, the Utah Botanical Center, as well as garden classes and expos at other locations.
- Train 100 professional pesticide applicators in identifying abiotic diseases and environmental stresses in woody plants. The training will occur at the Utah Pest and Lawn Care Association (UPLCA) annual meeting on January 24-25th. The training will focus on reducing pesticide use through proper selection and proper care of woody plants.
- Train 40 professional lawn care operators in identifying and diagnosing abiotic diseases and environmental stresses. These workshops will focus on training them to identify problems and look for the best solution as opposed to making scheduled treatments that may or may not solve problems.
- Train 30 tree care professionals from surrounding municipalities of Weber and Davis Counties in proper planting, care and maintenance of woody plants at the Ogden Botanic Gardens and the Utah Botanical Center in May of 2007. Posters with the top 10 abiotic disorders of woody plants will also be distributed to participating parties.
- Disseminate “Preventing Unnecessary Pesticide Applications by Correctly Identifying Abiotic Diseases and Environmental Stresses” on three radio programs broadcast to the Intermountain area.
- “Correctly Identifying Abiotic Diseases and Environmental Stresses” information will be published in a statewide newspaper and two regional newspapers. Similar information will also be provided through the USU Information Office to all media outlets in the state.

Techniques

- Train 80 Utah State University Master Gardeners in diagnosing abiotic diseases and environmental stresses common along the Wasatch Front in Tooele, Davis, and Utah Counties. The training will be conducted by USU Extension Horticulture Agents, USU Paraprofessionals and appropriate USU Specialists.
- Train 100 professional pesticide applicators in identifying abiotic diseases and environmental stresses in woody plants at the Utah Pest and Lawn Care Association (UPLCA) annual meeting on January 24-25th.
- Train 40 professional lawn care operators at a day-long workshop to be held in October of 2008. The Utah State Pest Control Association will identify and invite key individuals to participate in this training workshop. The key individuals will then train others in their companies. These workshops will focus on training them to identify problems and solve them with approved in IPM practices.
- Hold a two-day training for 30 tree care professionals from surrounding cities and municipalities about reducing pesticide use through proper care and maintenance of woody plants at the Ogden Botanic Garden and Utah Botanical Center in May of 2008. The training will also include the demonstration of proper planting practices along with common problems associated with packing material.

Budget

Audiovisual equipment, supplies, and developing	\$	1,250.00
Printing of (5) Poster board displays for agents	\$	(500.00)
Printing of (25) Smaller posters for cities	\$	(750.00)

Travel (\$120.00 per agent / support staff)	\$	400.00
Approximately 150 miles each @ .453 per mile		

Workshop supplies and preparation	\$	1,400.00
Plant material (trees) for planting demonstrations	\$	(500.00)
Printing costs / CD's for Lawn Care Professionals	\$	(500.00)
Lunch for Tree Care Workshop	\$	(400.00)

Matching Funds from Other Sources

Utah State Pest Control Association	\$	400.00
Master Gardeners in Tooele, Davis, Weber and Utah Counties	\$	600.00
Thanksgiving Point Advanced Master Gardeners	\$	200.00

REQUESTED FUNDING SOURCES

IPM Mini Grant	\$	1,850.00
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Total	\$	3,050.00
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