

Final Report

Reducing Pesticide Use On Turfgrass Through Integrated Pest Management Practices

Project leaders

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Cooperators

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Situation Statement

Turfgrass is the single most extensive crop grown in Utah. Virtually every home in the state supports extensive turf areas and many of those areas have multiple pesticide applications every year.

Overuse of pesticides is not only expensive but it also causes other problems. An important aspect of maintaining good water quality is reducing pesticide and fertilizer use and improving runoff water quality.

More efficient sprinkler systems and pressurized irrigation have eliminated drainage ditches, but water still flows off and into storm drains and other drainages and eventually moves back into the aquatic systems.

Current turfgrass management programs include as many as six applications of fertilizer per season and with additions of insecticides, fungicides and herbicides. While these may enhance the growth of landscape plants, excessive applications of pesticides often move offsite and pose unnecessary risks to people, pets, desirable plants, streams, reservoirs and groundwater.

Previous research done by Utah State University shows that most professional lawn care services apply “cookbook” formulations to any and all residential lawns and landscapes without regard to plant needs for desired landscape results.

Typically pesticide applications are made on a calendar basis as opposed to a needs assessment and many applications are not needed for the landscape to perform successfully.

Developing a good IPM turfgrass management program, with specific emphasis on using the right amount of fertilizer to avoid reducing excessive insecticide, fungicide and herbicide applications, is essential.

Herbicides are often applied in excessive quantities and at greater frequency than needed. Helping professionals and homeowners understand the importance of good turfgrass practices on improving turf growth and appearance.

A well-designed turfgrass management program will emphasize the importance of protecting water quality. It will concentrate on non-chemical methods including selecting the right grass species for your location, mowing correctly, watering correctly, monitoring for pest problems and preventive practices as opposed to chemical treatments.

Report Accomplishments

This program focused on Davis, Tooele, and Utah Counties, but is applicable to the rest of Utah and other Intermountain areas.

The focus of the program was two-fold. It developed a program for training professionals and homeowners to reduce pesticide usage on turfgrass and develop a similar program for homeowners to utilize in their own landscapes.

Project accomplishment 1 Training Professional Pest Control Operators

In cooperation with the Utah State Pest Control Association, we conducted a day long training session that focused on Pest Management and on Integrated Pest Management principles.

As a part of the program we had a one hour hands on weed identification seminar with 45 professionals. We later conducted a two hour field training exercise to help them learn the importance of managing turfgrass areas with minimal pesticide inputs.

The demonstrations and training focused on the importance of cultural practices including mowing frequency and mowing height, irrigation management, thatch and soil compaction management and fertilization to help reduce weed infestations.

Project accomplishment 2 Developing A Master Gardener Curriculum

The project developed a PowerPoint training curriculum for use by Master Gardeners in the above-mentioned counties and additional counties throughout the state. It also includes a curriculum they, in turn, can use to train others.

Project accomplishment 3

Using Master Gardeners In Training Homeowners On Low Input Turf Management

As a part of this program, Master Gardeners evaluated 100 landscape plans for area homeowners and participants in the landscape classes received recommendations for low-input turfgrass management.

Project accomplishment 4

Training Beginning Master Gardeners In Weed Management And Other IPM Techniques

There were training sessions providing Master Gardeners with initial training in low-input turfgrass management and providing them with resource materials to educate others so they can, in turn provide needed training for others.

This description of the training provided to the beginning Master Gardeners participants is typical of programs conducted for 75 participants in Tooele, Davis and Utah Counties.

Sample Summary of the Weed Diagnostic Lab for Utah County

On Sept. 20, 2007, Adrian Hinton and Larry Sagers and Gretchen Campbell organized the final monthly Master Gardener lab. This class was to help the 2006 MG participants in learning to diagnose weeds at various stages and also provide suggestions for weed control in and around their homes and businesses. We had 25 people attend.

All the individuals brought weed samples to be identify. We had a total of over 60 weed samples for the program.

This was a two-hour session where all the individuals received identification of their weed sample and ways to control their weeds.

We felt that this was a very productive lab where they had hands-on training looking at the weeds and then using the resource material, agents and books to find solutions to their weed problems.

Project accomplishment 5

Advanced Master Gardener Weed And Other IPM Training

Special labs were held in Davis, Salt Lake, Tooele and Utah County at Thanksgiving Point for the Advanced Master Gardeners. In these lab there were pre and post tests conducted for each participant to determine common weed species that plague farms, landscapes, lawns and other areas in the state.

The weed identification part of the labs were then followed by the training in the Integrated Pest Management techniques that will help individuals to grow their crops and landscapes with fewer pesticide inputs while still maintaining the quality of the production for the clients.

A total of 80 people were trained at these labs.

Project accomplishment 6

Advanced Master Gardener Pest IPM Management Workshop, Fruits, Vegetables and Turfgrass

A special laboratory training for the Advanced Master Gardeners from Salt Lake, Davis, Utah, and Tooele Counties was held at Utah State University – Greenville Farm, August 20, 2007 in Logan, Utah.

Because this year's curriculum featured edible crops and turf grass, we wanted to familiarize them with the research and the teaching that the specialist were doing in their respective disciplines, while focusing on an Integrated Pest Management approach. The training was organized to allow these specialists to present information that Master Gardeners could then use to teach clients in their own counties.

The first presenter was Dr. Dan Drost, USU Extension Vegetable Specialist. Drost started his presentation explaining about how to grow melons in the state and explaining the different types of melons that will successfully produce here. He showed the Master Gardeners how to recognize when the melons were ripe. He also demonstrated the use of a refractometer to analyze the sugar content. A melon taste test was very popular amongst the participants.

He also shared his expertise in asparagus and the way to grow it successfully in the state with reduced irrigation. His studies on varieties, pest control, irrigation and weed control were helpful instructions for those who are assisting homeowners in their vegetable gardens. Other helpful items covered organic vs conventional vegetable growing, late season squash production in high tunnels, and cover crops for soil improvement.

Dr. Brent Black, USU Extension Fruit Specialist spent the time educating the participants about new and innovative ways of producing small fruits in Utah. Among the crops he covered were elderberries, chokecherries, high tunnel raspberries and blackberries, sheltered strawberries. Dr. Steve Dewey and Dr. Ralph Whitesides, USU Extension Weed Specialists conducted training on serious weed problems in the state as well as how to identify common weed species. It was a popular session because they conducted a weed identification workshop to go along with the training.

The final session was conducted by Adam Van Dyke, research technician for Dr. Paul Johnson, turfgrass professor for USU. He spent the time helping the Master Gardeners learn how to identify the different kinds of turfgrass species. He also discussed the different irrigation treatments in the research plots.

A discussion was also held concerning common turfgrass pests and how to manage them using conventional as well as IMP practices.

More than 80 Advanced Master Gardeners from different counties along the Wasatch Front were educated regarding sound horticultural information with the focus being Integrated Pest Management practices. These same Master Gardeners are now better able to assist the public with their gardening questions.

Project accomplishment 7

Disseminating “Reducing Pesticide Use On Turfgrass Through Integrated Pest Management Practices”

Twenty radio programs were broadcast to the Intermountain area. These included Pest management, Integrated Pest Management techniques, fruit pest management, turfgrass pest control and vegetable pest problems and their control. All were broadcast on KSL Radio Greenhouse Show, the Intermountain West’s most widely listened to weekend radio program.

Larry A. Sagers, Gretchen Campbell Advanced Master Gardeners and Tim Hughes, KSL Radio doing radio show on IPM.