

impact

University of Idaho Extension programs that are making a difference in Idaho.

Integrated Pest Management provides pest alerts for home gardeners

AT A GLANCE

University of Idaho Extension's Idaho Master Gardener Program creates an alert system leading to a reduction in pesticide usage and improvement in overall skills for urban community.

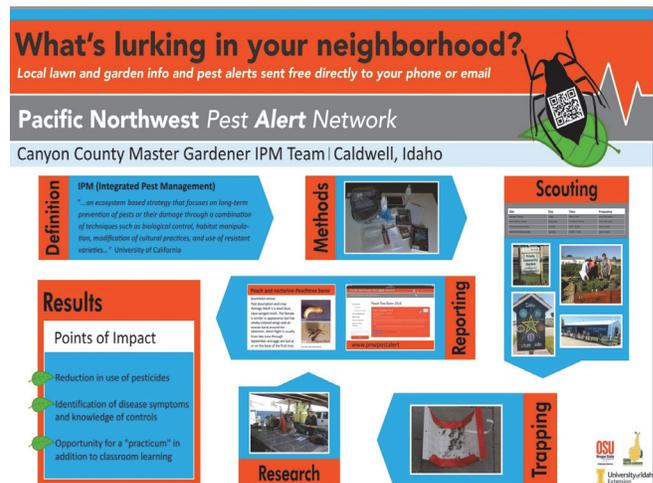
The Situation

Homeowners use up to 10 times more pesticides per acre rates compared to their agricultural neighbors and with less training according to U.S. Fish and Wildlife Service; a judicious use of these chemicals is desirable.

Misuse of pesticides causes damage, environmental consequences, decrease of pollinators and impact on food production. A study indicates the significant impact; The major economic and environmental losses due to the application of pesticides in the U.S. were: public health, \$1.1 billion year-one; pesticide resistance in pests, \$1.5 billion; crop losses caused by pesticides, \$1.4 billion; bird losses due to pesticides, \$2.2 billion; and groundwater contamination, \$2 billion.

Our Response

A proactive Integrated Pest Management (IPM) approach was implemented by the Extension educator. A team of specifically trained Idaho Master Gardeners scouted for insect, weed and disease pests that impact home gardeners in the Treasure Valley/Boise metropolitan area with a population of 709,845. The PNWPestAlert.net network for agriculture already



Team leaders Maria Held and Julie Eldridge presented the alert system at the 2019 International Master Gardeners Conference.

existed in Canyon County to which a landscape and garden category was added. The IPM team was established and members were trained on trapping, scouting, and identifying landscape and garden pests. The members submitted pest sightings which were used to provide alerts for homeowners.

The Extension educator coordinated with the administrator of the PNWPestAlert.net network to include the category and requested funding for needed equipment.

To determine parameters and needs, a simulation was conducted by scouting one site on a weekly basis. A grant was awarded to purchase equipment and research texts for IPM walks.

Four locations were identified to host scouting walks for monitoring insects, weeds, diseases and generate a

report. Site One sold bedding and garden plants, local fruits and berries. Vegetables were grown onsite and sold at the farm stand. Eight IPM walks were completed every other week at this location. Site Two was comprised of raised beds for veterans and/or their families as a memorial garden. Vegetables grown in the garden plot are donated to the veterans and food banks which address the needs of a local food desert. The IPM team walked this location every other week for a total of eight walks. Site Three is a community garden focused on food production for donation to local food banks. IPM walks were conducted at Site Three once per month totaling four visits. Site Four was a pollinator demonstration garden inside a city park. A total of four IPM walks, one per month, were completed at the site.

Working with the local master gardener program, the IPM walks provided practicum for apprentice master gardeners.

Program Outcomes

To date, a total of 115 landscape and garden alerts have been sent. During the 2019 growing season 23 alerts were created to inform the public. Insect alerts included: Lilac/ash borer, cabbage looper, aphids, codling moth, western cherry fruit fly, sequoia pitch moth, peach twig borer, squash bugs, earwigs, false chinch bug and beet leaf miner. Disease alerts included: Fire blight, peach leaf curl and powdery mildew. Cultural alerts included: Blossom drop, blossom end rot and tomato fruit issues.

IPM team members increased personal familiarity of common insects, weeds and disease symptoms. Reports from each IPM walk were sent via email to IPM team members, Extension educator and site managers.

Master gardeners reported noteworthy findings in their own garden with “Report a Pest” on the PNWPestAlert.net website. When appropriate, a PNW

Pest Alert is researched, generated and sent to subscribers with a follow-up post to social media outlets.

A total of 1,714 individuals currently subscribe to the PNW Pest Alert, of which 533 subscribers are receiving landscape and garden alerts. This reflected a 22 percent increase from the previous year.

Alerts allow for spraying more effectively. Reduction in pesticide use was confirmed by a 2018 survey: 49 percent of survey respondents applied less pesticide.

Respondents reported improvement of skills on the survey: 81 percent managed pest problems more effectively; 82 percent used recommendations to make pest management decisions; 56 percent prevented a pest problem.

The Future

The IPM team is expanding trapping protocol to enhance field observations of insect pests. In addition, master gardeners and the Extension educator will work to report information from the plant diagnostic clinic to help guide timeliness of landscape and garden alert generations for PNWPestAlert.net network. IPM walks will continue to be a practicum requirement for the apprentice master gardeners.

Marketing of the PNWPestAlert.net network during outreach events and through social media will be a continued effort of the Idaho Master Gardeners. A 2019 subscriber survey will be implemented.

Cooperators and Co-Sponsors

These IPM walks were made possible by our cooperating site locations; Blue Barn Produce, The Idaho Veterans Garden, Trinity Community Garden and the West Park Pollinator Garden.

References: COMPASS Community Planning Association of Southwest Idaho (2018); Environmental and economic costs of the application of pesticides primarily in the United States (2005); U.S. Fish and Wildlife Service (2000).

FOR MORE INFORMATION

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