



WASHINGTON STATE
UNIVERSITY
EXTENSION



FIRST DETECTOR/EXOTIC PEST TEAM

BY THE NUMBERS

Since 2013:

- 12,599 gardeners, landscapers, farmers, and natural resource professionals have been trained to recognize key exotic pests and manage newly introduced pests.
- 141 first detector workshops and exotic pest educational events have been delivered.
- 10 pieces of scholarship have been produced along with 8 training modules.
- 4 grants have supported team efforts to recruit WSU clientele and program participants to detect exotic pests.

Since 1991:

- 67 new invertebrate state records, 15 a direct result of WSU outreach efforts.

2016

ISSUE

Yearly economic impact of invasive species in the United State is estimated at \$133.6 billion. In a time of world trade and global movement of people and products, hitchhiking pests are becoming more and more common. There is an estimated 32% risk that a wood-boring insect more damaging than the Emerald Ash Borer will be introduced into the U.S. in the next ten years. Washington is ranked the fourth-highest risk for exotic pest introductions according to the 2008 Farm Bill. Early detection of newly introduced pests is paramount for reducing impact and costs to Washington's agricultural and natural resources.

RESPONSE

The Exotic Pest Team develops content, curriculum, and scholarship for dissemination throughout WSU Extension program areas targeted at gardeners, farmers, green industry professionals, and natural resource workers. Leveraging agency partnerships, WSDA and WSU strategically construct outreach specific to pest threats most likely to impact Washington's agricultural, natural resource, and green industry communities. When a new pest threat comes to the region or if a pest threatens introduction in a large network of programs, stakeholders and potential first detectors are engaged to disseminate current knowledge of the pest and its potential impact on the state. The following are examples of the Exotic Pest Team's reach:

- Master Gardener Program had 3,329 volunteers reaching 83,330 gardeners through 4,540 diagnostic plant clinic events, 630 gardening classes, and 640 hands-on demonstrations in 2015.
- Pesticide Education Program (PEP) delivered education through seventeen recertification trainings to 2,500 licensed pesticide applicators in 2015.
- The WSU Plant & Insect Diagnostic Laboratory handles more than 2,000 samples a year.
- The WSU Plant & Pest Diagnostic eNetwork processed 350 digital samples in 2015 and more than 7,500 digital samples since its creation in 2002.
- The M.T. James Museum serves as a regional resource for insect identification. In 2014, the museum identified 154 insect samples submitted.
- The WSU Garden Web Team has developed the "PestWatch" factsheet series and the PestSightings ListServe with 400 subscribers to disseminate new pest information.



QUOTES

“With regular introductions of exotic pests, it is paramount that the Exotic Pest Team continue to deliver the information and research that helps WSDA stay abreast of exotic pest issues and marshal the resources of our diverse citizenry to help us respond to exotic pest issues.” - Dr. Brad White, assistant director, WSDA

EXOTIC PEST TEAM MEMBERS

Gwen Hohiesel, Sharon Collman, David Pehling, and Mike Bush (WSU Extension educators); Chris Looney and Eric LaGasa (Washington State Department of Agriculture Pest Program); Rich Zack (WSU Entomology, M.T. James Museum); Nicole Martini (WSU Master Gardener Program); Jenny Glass and Rachel Bomberger (WSU Plant & Insect Diagnostic Lab and WSU Plant & Pest Diagnostic eNetwork), Catherine Daniels (WSU Web Team); Carol Black, Carrie Foss, and Becky Maguire (WSU Urban IPM and Pesticide Education Program); and Justin Bush (Washington Invasive Species Council).

IMPACTS

Identification of newly introduced pests and adoption of new management strategies are measurable impacts. With the introduction of Brown Marmorated Stink Bug (BMSB) and Spotted Winged Drosophila (SWD), team members Gwen Hoheisel and Mike Bush developed workshops for fruit growers that increased grower skill and knowledge. After workshops, 2% of the participants said they felt “fairly” confident in identifying SWD, while 98% and 100% were “very” confident in identification of SWD and BMSB, respectively. A similar trend was measured with Master Gardeners and WSU PEP participants when trained to identify native versus exotic pests. Eighty-five percent of the class participants surveyed could distinguish between exotic Asian Longhorned beetles and native beetles, and 89% could distinguish between the newly introduced Brown Marmorated Stink Bug and endemic stink bugs. Ninety-four percent now know how to report and submit suspect exotic insects after receiving training.

Since 1991, 67 exotic invertebrate pests have been detected in the state. Twenty-four of these (36%) were first detected by private citizens, underscoring the value of these outreach and education programs. Fifteen species (22%) were detected as a result of WSU Extension programming, which included presentations and material developed by WSU and WSDA. Diverse points of contact between the public and collaborating team members ensure that information moves freely to and from the public, and the collaborative Exotic Pest Team allows rapid communication across programs with distinct missions.

The introduction of BMSB to the region illustrates the effectiveness of the team. BMSB was first discovered in the Pacific Northwest in 2004 in Portland, Oregon. Based on its imminent spread into Washington, the team strategically issued press releases in southwest Washington to encourage citizens to search for this pest; a private citizen then discovered it in 2010. Since then, through outreach materials, trained stakeholders, and press releases we have documented the spread of BMSB into eleven counties via submissions to Master Gardener clinics, WSU Extension offices, and the WSDA Exotic Pest Lab. In addition, a new state record for the southern green stink bug, *Nezara viridula*, was discovered at damaging levels in King County. By integrating expertise and collaboration, the team increased the pool of exotic pest detectives and created a shared focal point for each program.