

GROWING KNOWLEDGE

Series content is coordinated by Dr. Lloyd Nackley, associate professor of nursery production and greenhouse management at Oregon State University in Corvallis, Oregon.



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An aerial view of the indoor/outdoor plot system at Oregon State University Northwest Extension Center in Canby. PHOTO COURTESY OREGON STATE UNIVERSITY

PACE courses coming for nursery, greenhouse IPM

Classes will provide industry-specific information and strategies

BY MELISSA SCHERR AND LLOYD NACKLEY

THE NURSERY PROGRAM at the Oregon State University Northwest Extension Center in Canby, Oregon, will soon be offering online courses for Pesticide Applicator Continuing Education Credits (PACE) and to the nursery community at large.

The upcoming PACE classes are intended to provide more industry-specific information about strategies for pest management in greenhouses and nurseries, and the specific challenges that come from this production system. The core courses will take approximately one hour each to complete, and cover four topics: Introduction to IPM/

the IPM Toolbox; Scouting and Monitoring for Insects; Identifying Pest Insects; and Common Pests/Natural Enemies.

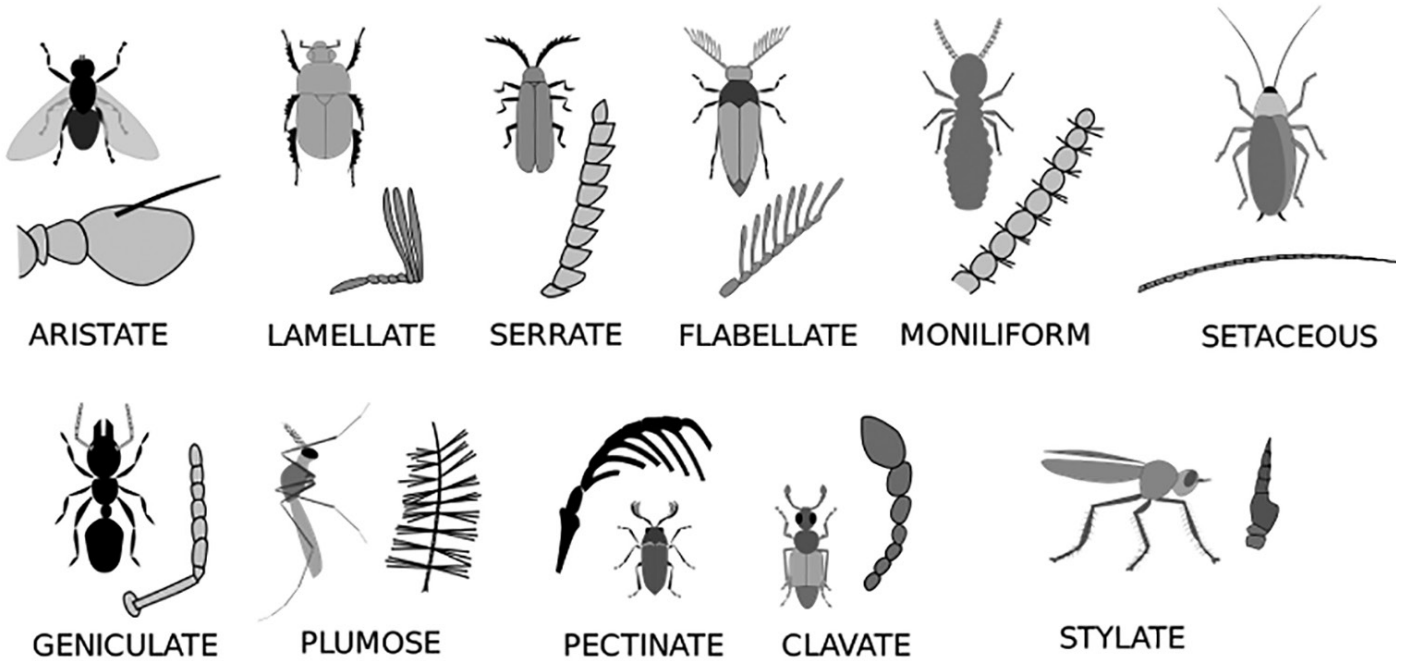
Entomologist for the Nackley Lab, Dr. Melissa Scherr, says “These courses are intended fill an educational gap for the nursery and greenhouse community. There are so many courses available for pesticide applicators, but it’s rare to come across courses tailored to this very specific and vital industry in Oregon’s economy.”

Scherr is the instructor of record for the newly developed classes and says the classes are targeted toward more than just pesticide applicators, but also for all production workers, managers and students interested in professional development in nursery and ornamentals, crop advising and consulting.

The first course in the series, “Intro to IPM, the IPM Toolbox” walks growers through the basics of implementing an integrated pest management program, beginning with



Growing Knowledge



A diagram from the insect identification course showing common insect antennal shapes. PHOTO COURTESY OREGON STATE UNIVERSITY

the importance of pest identification and scouting for damage, and continuing through use of historical records in establishing treatment patterns for pest insects.

Pest management is categorized by

action type — cultural control establishes new environmental aspects that limit the ability of insects to be successful or even invade; mechanical control gives examples of how insects can be physically removed

or blocked from invasion; and biological control gives suggestion for biological agents that may hunt and feed on pest insects present.

In addition, the module discusses

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Dr. Lloyd Nackley evaluates pest presence on potted plants in magnifying headgear. PHOTO COURTESY OREGON STATE UNIVERSITY

how chemistry is integrated into an IPM program rather than excluded, showing the importance of using pesticides as tools in cooperation and mixing strategies to maximize efficacy and reducing cost.

In the second module, “Scouting and Monitoring for Insects,” the equipment used for sampling insects and strategies for incorporating scouting into an IPM program is more extensively examined. The hour-long session focuses on modifying typical field crop techniques for more appropriate use in greenhouses and on potted nursery plants. Considerations for water management and beneficial insects are taken into account, as well as sampling for insects that could be acting as natural enemies of pests present — without killing them.

Videos include a complete examination of a potted plant when searching for evidence of pests, an irrigation man-

agement case study, and an interactive session where registrants identify pests, their natural enemies, and quantify pest successes based on pest observation. There are many examples of trap types as well, including how to using a “tape trap” method to capture insects and other pests that may be crawling in and out of buds or newly developing stem tissues.

“Identifying Pest Insects” is the most technical of the four modules, but does not focus specifically on teaching names of pests and memorizing how plants are damaged. Instead, the focus of this module is a more general approach to identifying key features of insects and recognized traits that are diagnostic by damage type — for example, types of mouthparts that create chewing damage to leaves vs. “silvering” damage caused by rasping mouthparts.

“The idea isn’t to be able to identify every insect you find after just an »



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"Tape traps" made with double sided sticky tape sample insects migrating to branch tips. PHOTO COURTESY OREGON STATE UNIVERSITY



Dr. Melissa Scherr offers a preying mantis as an example of a beneficial insect. PHOTO COURTESY OREGON STATE UNIVERSITY

hour online — that's not really possible," Sherr said. "The idea is to know which structures matter for identification so you can have informed discussions with experts to help you diagnose an issue." Another recognizable feature are the various shapes of antennae.

"And not just the parts of the insect," Scherr added, "but also the other evidence they leave behind." She indicates an image insect poop, called "frass" on her computer screen.

The fourth module, "Common Pests and Natural Enemies," draws from a recent revision to the extension publication "A Pocket Guide to Common Natural Enemies of Nursery Crops and Garden Pests in the Pacific Northwest," which was recently updated by Scherr, Nackley, and Robin Rosetta, a former Oregon State University Nursery IPM specialist who is

now retired.

The publication is available free online at TinyUrl.com/NWPestGuide and aims to help not only identify natural enemies, but to monitor the populations.

"The biggest benefit of the online approach is that we have access to one of the best online platforms in the country and we can treat each module as if the student is with us, examining our potted plants, examining our irrigation system, and show them how to see it through the lens of pest management," said Nackley. "We aren't constrained to what we can bring into a classroom or what happens to be in bloom and available in the winter when growers have more time to attend workshops."

The new PACE courses are expected to launch fully in 2024. Because the classes are online, they have been created to be fully asynchronous, meaning there

are no scheduled meetings and the course modules can be completed whenever the registrant has time.

Enrollment is \$50 per course, and admittance into courses will be rolling, with no specific timing required to sign up or complete the course. Courses will be advertised online through OSU Extension's various outlets, as well as on the ODA's website for available accredited courses for continuing education credits. In addition, the Nackley Lab has plans to host in-person workshops throughout the year to provide hands-on experience, with presentations in both English and Spanish. ©

For questions about these courses, contact Dr. Lloyd Nackley (Lloyd.Nackley@OregonState.edu) or Dr. Melissa Scherr (Melissa.Scherr@OregonState.edu).