



University of California
Agriculture and Natural Resources

Retail Nursery and Garden Center

IPM News

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UC to Offer IPM Workshop

Register now for the UC IPM workshop Integrated Pest Management for Retail Garden Centers and Nurseries scheduled for **Nov. 2** in **Oakland!**

Want the latest information about home and garden pests and pesticides as well as resources to consult when customers' pest questions arise? Send yourself and your staff to this hands-on workshop, co-sponsored by UC IPM and the California Association of Nurseries and Garden Centers and designed especially for retail nursery and garden center employees, managers, owners, and affiliates.

Participants will gain new skills to better serve customers and keep them coming back. Participants also will learn about Integrated Pest Management (IPM), pest identification, and how they can direct customers to less toxic pest management tools, both chemical and nonchemical.

Training topics chosen by you!

Many of your stores participated in our February 2010 phone survey. We designed this program to address the topics you said would most interest you. (See the June issue of this newsletter for details about this survey). Most of the day will be spent in small breakout groups that will facilitate learning.

Topics will include:

- Landscape pest identification—Each participant will receive a set of UC IPM's Landscape Pest Identification cards and learn how to use them to identify pests and find management solutions. More than 60 pest and damage samples will be on display, so participants can practice their skills.
- Online resources from the University of California—In a computer lab, each participant will learn how to navigate the UC IPM Web site and find resources to help identify pests, answers to customers' garden pest questions, and products that can solve them.
- Pesticides and other products for managing pests with an emphasis on less toxic products—Participants will examine labels and packaging, discuss health and environmental concerns, and learn about less toxic products.
- Lawn care issues—Learn about common Bay Area lawn problems.

Send a few, train many

The workshop will be a "train-the-trainer" seminar. Train-the-trainer means attendees will receive materials and ideas, so they can go back to their stores and train others on what they learned. Training others is a great way to reinforce what was learned and to make the information best fit the needs of your store.



Your \$40 registration fee includes a set of the popular Landscape Pest Identification cards (a \$20 value), lunch, a training certificate, and take home materials.

Don't miss this opportunity!

Registration is open exclusively for retail affiliates until **Oct. 20**, so sign up **online today**. The workshop will be held at **CSU East Bay, Oakland Conference Center**. For directions, the full agenda, and additional details, see the training and registration Web site at <http://ucanr.org/sites/IPMretail/>.

Can't make that date? We plan to hold a similar workshop in the Sacramento area or the northern San Joaquin Valley in early 2012. Watch for our December newsletter for more details.

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WANT TO SUBSCRIBE? Just send your e-mail address to UCIPMretail@ucdavis.edu with the subject line "Subscribe to retail newsletter," and we will put you on the list to receive it electronically. Please share this newsletter with your co-workers and encourage them to subscribe too!

UC Davis Arboretum All-Stars

The UC Davis Arboretum All-Star program is a list of plants recommended for California gardens because they are attractive, tolerate summer heat, require less water, and have few problems with pests or diseases. In addition, some plants were chosen specifically because they produce nectar and pollen attractive to a variety of insects.

Using plants that support insect diversity improves the chance of natural pest control in the garden. Information about the All-Star plants is available on the arboretum's Web site at <http://arboretum.ucdavis.edu>, where the plant database can be utilized to learn about which plants might be best for your customer's needs.

Careful selection of garden plants can help reduce pesticide use in two ways. Species that are known to attract the "good bugs" such as hover flies, lady beetles ("ladybugs"), and lacewings provide the protein and sugar these insects need to live and reproduce, increasing their numbers to consume pest insects. Also, selecting the correct plants and planting closely to exclude light on the soil surface helps reduce weed growth. Furthermore, the infrequent irrigation required for these drought tolerant plants leaves the soil surface

dry for long periods between irrigations, reducing soil moisture near the surface for germinating weed seeds.

Some of the best plants that we recommend to fulfill these criteria are the buckwheats, especially the giant buckwheat *Eriogonum giganteum*. Large, attractive, flattened flower heads provide nectar and pollen to a wide variety of creatures including hunter wasps, hover flies, lacewings, carnivorous beetles, and many tiny native bees. The great number of insects also attracts larger and less discriminate predators such as dragon and damselflies as well as mantids.

One of the best long-blooming and midsummer food providers is the California goldenrod, specifically a selection we call 'Cascade Creek'. Goldenrod is perfect to support native bees, so important to us now that the European honey bee numbers are being reduced by Colony Collapse Disorder. It's also a favorite stop for a variety of butterflies, hover flies, and small bees. Once established, this vigorous perennial can crowd out weeds and is easily maintained by mowing to the ground in winter.

Help your customers reduce weed problems by choosing ground covers that can outcompete weeds. One Arboretum All-Star useful as a ground cover in dry areas is the prostrate mint *Nepeta x faassenii*. This vigorous plant grows quickly to smother the ground up to 18 to 24 inches across. It is recommended to use mulch the first season of planting

to cover the ground between plants until they mature. This mint can be mowed to the ground in fall and will regrow and bloom again in spring.

For shady areas, *Cerastium tomentosum* forms a low-growing mat that will cover the soil and crowd out weed seedlings. The silvery foliage and spring-blooming white flowers are very attractive.

Remind your customers that when deciding how many plants to buy, using close spacing will allow plants to grow together to outcompete weeds. This may be more expensive but will be worth the money in saved weeding labor and will result in the more rapid development of a beautiful, mature, weed-free garden.

Currently the following California companies are wholesale partner/growers for the All-Star program:

- McCall's Nursery, Fresno;
- Cornflower Farms, Elk Grove;
- Suncrest Nurseries, Watsonville; and
- High Ranch Nursery, Loomis.

If you are a customer of one of these wholesale nurseries and are interested in offering the UC Davis Arboretum All-Star plants, contact your sales representative for more information. Since the commercial launch of the All-Star plants in 2009, their availability has steadily increased and the program mission remains to bring all the species to the retail market. To date, about 50 species are available.

—Ellen Zagory, Director of Horticulture,
UC Davis Arboretum



Buckwheats, such as giant buckwheat *Eriogonum giganteum* shown here, support beneficial insects in the garden.



California goldenrod, *Solidago californica*, is a vigorous grower that outcompetes weeds once established.



Once established, prostrate mint, *Nepeta x faassenii*, used as a ground cover, will outcompete weeds in dry areas. Mow it down in fall.

Don't Let Pests Invade Your Nursery!

Many of our most serious plant pests aren't native to California. They arrived here from other parts of North America or the world. One way these "exotic" pests enter the state is on contaminated nursery stock shipped to retail nurseries or garden centers and then sold. Consumers purchasing infested plants then rapidly move the pests throughout a region.

However, retailers have played and continue to play a critical role in limiting invasions by new pests by catching contaminated plants before they are sold. Wholesale nurseries in California and other parts of the United States follow strict procedures to prevent pests from being shipped out with their plants. While the USDA and CDFA inspect as many shipments of plants as possible, some infestations could still slip through. Retailers help this effort by serving as one more set of eyes looking for invasive pests.

Inspect arriving plants or flats for signs of pests or their damage when plants are unloaded from the truck. Spot-check leaves, stems, crowns, flowers, and growing points. Where you see damage such as plant distortion, sticky or waxy deposits, or discoloration, examine plants more carefully for insects or signs of plant pathogens. A hand lens or magnifier is useful for this task. Also look for weeds in plant pots. Don't accept shipments of infested plants.

Exotic Pests

Become familiar with the exotic pests that are currently threatening California. The UC Riverside Center for Invasive Species maintains a Web site of species of particular concern, http://civr.ucr.edu/invasive_species.html. The CDFA also has a useful site, <http://www.cdfa.ca.gov>. At present, the Asian citrus psyllid, glassy-winged sharpshooter (in Northern California), and the brown marmorated stink bug are exotic pests retailers should be especially aware of because of the likelihood these invasives could be spread on nursery plants.



M. E. Rogers, University of Florida

*Inspect all incoming citrus plants as well as box orange, *Severinia buxifolia*; orange jessamine, *Murraya paniculata*; and related plants for Asian citrus psyllid. Look for waxy tubules (shown above) and nymphs (shown below), especially on new shoots. This pest and the lethal disease it vectors, Huanglongbing or citrus greening, threaten the California citrus industry.*



M. E. Rogers, University of Florida

If you find evidence of an exotic pest, immediately isolate the plants and either contact your county agricultural commissioner or call the CDFA Pest Hotline at 1-800-491-1899.

Established Pests

If you find significant levels of established insect, mite, nematode, or plant pathogen pests, the best solution is to return the shipment to your supplier.

If you decide to keep a few infested plants rather than sending them back, put them in a sealed off quarantine area in your nursery and treat them immediately with an appropriate labeled pesticide. Hold them in the quarantine area until you are sure that the pest has been eradicated. Make sure that workers don't move pests from this area into other areas of your store. If you need help determining how to control pests, check with your UC Cooperative Extension office, agricultural commissioner, or the UC IPM Web site.



J. K. Clark, UC

The glassy-winged sharpshooter (nymph on left, adult on right) is established in Southern California but still threatens the northern part of the state. This pest carries several bacterial diseases that can be deadly to crop and ornamental plants.



S. Ausmus, USDA/ARS

The brown marmorated stink bug is a serious pest of many ornamentals, fruit trees, and vegetables in the Eastern United States and has been found in a few isolated spots on the West Coast.



Courtesy, CDFA

CDFA and USDA tag plants that have already been inspected for exotic pests. Don't remove the tags in your nursery.

Train store employees to look for pests on the nursery sales floor as well. Move infested plants immediately to a quarantine area for treatment or destroy and discard them to keep infestations from spreading. Workers should be trained to recognize common pest problems such as aphids, scale, spider mites, thrips, mealybugs, whiteflies, rusts, powdery mildew, mosaic viruses, and general plant decline.

Rodenticide Products are Changing

The U.S. Environmental Protection Agency (EPA) is moving to ban the sale of the most toxic rat and mouse poison products to consumers, because it has determined that they pose an unreasonable risk to children, pets and wildlife. As a result of this action, sales of



Norway rat. J. K. Clark, UC

several active ingredients and products will no longer be allowed in outlets such as retail nurseries, garden centers, and

hardware stores. Other active ingredients formerly available as pellets or loose grain baits will be sold only when packaged in tamper-resistant bait stations.

Although all products of concern were expected to be off the shelves by June, lawsuits have slowed implementation of these changes. However, a number of manufacturers have withdrawn targeted products, and many new, safer, tamper-resistant products are now on shelves. This fall, several Bay Area public agencies, including the City and County of San Francisco, will be actively encouraging stores to voluntarily discontinue stocking problem products.

Acute toxicants

Rodenticides are generally classified as acute toxicants and anticoagulants. Acute toxicants generally kill rodents after one feeding, often within a few hours. These products (which include bromethalin, zinc phosphide, and strychnine) are highly toxic to people and nontarget animals such as pets and wildlife.

The primary use of strychnine and zinc phosphide in gardens is against gophers.

Home use products containing these ingredients must be placed underground within the gopher tunnel to keep the products away from nontarget species—and also to assure effective control. Underground use of these products won't be affected by the new regulations. However, bromethalin is widely used against rats and house mice around homes and structures. Under the new regulations, all products sold in retail stores for use by consumers will need to be sold in tamper-resistant bait stations. Products containing loose pellets will no longer be sold.

First-generation anticoagulants

Anticoagulants are divided into first- and second-generation products. First-generation anticoagulant products include warfarin, chlorophacinone, and diphacinone. These products require multiple feedings over the course of 3 to 5 days to kill rodents. This requirement for multiple feedings makes them less likely to injure pets or nontarget wildlife. These products will remain available for sale at retail stores; however, they will now be sold only in tamper-resistant bait stations. Pelleted or loose grain baits won't be available for use against rats and mice, although they can still be marketed for underground use against gophers and moles.

Second-generation anticoagulants

These products kill rodents with only a single feeding. Death may not occur for several days, however, so rodents may accumulate substantial quantities in

their bodies potentially leading to death of predators or scavengers feeding on them. In California, second-generation anticoagulants have been used only for rat and mouse control in and around structures. Active ingredients include brodifacoum, bromadiolone, difenacoum, and difethialone. These products will no longer be sold at retail stores catering to consumers, although products for professional use will be available in stores catering to licensed pest control applicators.

Tell customers about alternatives

Let your customers know about the hazards of loose rat or mouse poison pellets and second-generation anticoagulants to children and pets. Direct them to one of the many new, safer products now available in tamper-resistant bait stations. Also suggest they consider traps, which provide the safest and most effective way to control rats and mice in and around homes.

Remind customers that any program of trapping or baiting must be supplemented by removing food, water, and shelter (such as thick ivy around homes) for rodents and excluding rodents by screening, caulking, or plugging potential entryways. Suggest that they purchase tools to carry out these tasks in addition to traps or baits.

For more information about rat and mouse management, see *Pest Notes: Rats* and *Pest Notes: House Mouse* on the UC IPM Web site. To read about the EPA's decision regarding rodenticides, go to <http://www.epa.gov/pesticides/mice-and-rats/>.

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For more information about managing pests, contact your University of California Cooperative Extension office listed under the county government pages of your phone book, or visit the UC IPM Web site at www.ipm.ucdavis.edu.

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