UC IPM
University of California
Agriculture and Natural Resources

Retail Nursery and Garden Center

# IPM News

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# Lady Beetles: Do They Really Work for Aphid Control?

Many retail stores sell lady beetles (commonly called "ladybugs") for controlling aphids in gardens and landscapes.

Your customers might wonder: Does releasing lady beetles really work? University of California research has demonstrated lady beetle releases can effectively control aphids in a limited area if properly handled and applied in sufficient numbers.

However, because of inadequate release rates or poor handling at the store, in shipping, or after purchase, it is likely most lady beetles purchased at stores fail to provide satisfactory control. Here are some things to consider if you sell lady beetles:

## *Keep lady beetles refrigerated.*

Live lady beetles on display are attractive to customers, but beetles left out at room temperature will rapidly deteriorate.

Perhaps leave out one container with an attractive display advising customers to take a container of fresh beetles from the cooler and refrigerate them at home until they are ready to release them.

## *Lady beetles need water.*

When you receive a shipment of lady beetles, mist them with a little water before refrigerating them. Use a squirt bottle and don't allow water to puddle in containers. Repeat about weekly.

## *Don't sell dead lady beetles.*

Inspect your packets regularly and toss out any that have many dead lady beetles, or combine and save just the live ones. Try to purchase from primary suppliers (those who obtain beetles directly from collectors) and avoid suppliers who regularly ship dead beetles. Generally, retailers shouldn't store beetles for more than two months.

## *Suggest adequate release rates.*

University research shows high numbers of lady beetles are required to control aphids. One large, heavily infested rose bush in the landscape required two applications of about 1,500 lady beetles each, spaced a week apart. Most packages sold in stores contain only enough lady beetles to treat one aphid- infested shrub or a few small plants.

## *Release lady beetles at dusk or early evening.*

Lady beetles will fly away almost immediately if released during the heat of the day or when the sun is shining. Spray a fine mist of water on the plants, as giving beetles a drink can keep them around longer. Place beetles at the base of plants or in the crotches of low branches. Lady beetles will crawl higher into the plant in search of aphids.

Don't release lady beetles on plants that have been sprayed with insecticides.

J.K. CLARK, UC IPM

*The convergent lady beetle,* **Hippodamia convergens**, *named for the converging white marks on its thorax, is the species sold in stores for aphid control. Suppliers collect beetles from large overwintering aggregations in California's foothills and mountains. Many other species of lady beetles occur naturally in California landscapes but aren't sold.*

Residues from most insecticides are likely to kill the beetles. Insecticidal soaps and oils, once they dry, won't leave toxic residues.

## *Customers should expect lady beetles to fly away in a few days.*

Even when released with care, lady beetles will fly away within a few days. About 95% of released beetles in research studies flew away within 48 hours. Lady beetles are unlikely to lay eggs on the plants they are released on. If aphids return a week or two later, customers will need to release more lady beetles, hose aphids off with water, use insecticidal soap sprays, or wait for other native beneficial insects to fly in.

*... continued on page 2*

INSIDE...



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# Lady Beetles ...continued from p.1

J.K. CLARK, UC IPM

*Life-cycle development and stages of the convergent lady beetle: egg (left), larva (center), and pupa (right).*

Instead of releasing lady beetles, some customers might get better results by hosing aphids off with water or using insecticidal soap or horticultural oil sprays. However, these beneficial insects can be fun and educational!

See UC IPM's Natural Enemies Gallery http://ipm.ucanr.edu/PMG/NE/convergent_lady_beetle.html for information about the convergent lady beetle's life cycle. This web page also has links to more information about UC research on lady beetle releases for controlling aphids.

***[This article originally appeared in our June 2011 issue. ]***

# Retailers Attend IPM Workshops on Invasive Pests and More

Retail nursery and garden center employees play an important role in communicating pest management information to gardeners and the public. The UC Statewide IPM Program (UC IPM) strives to help retailers stay current on emerging pest-related topics facing California that help consumers effectively manage pests.

As part of this effort, UC IPM partnered with several UC Cooperative Extension Advisors and Specialists to offer three regional train-the trainer workshops in 2016 and early 2017. A total of 188 participants from 41 retail stores in 23 counties attended the workshops.

A. SCHELLMAN, UC IPM

Attendees participated in hands-on learning and discussions on the topics:

- identifying and reducing the spread of the invasive Asian citrus psyllid and huanglongbing disease (ACP and HLB);
- household pests such as cockroaches and ants;
- integrated pest management and understanding pesticides and labels;
- exotic and invasive pests found in California.

## *Resources from UC IPM*

Each workshop culminated with a discussion of the numerous online resources UC IPM has for retail nursery and garden center employees. Attendees were provided with a USB flash drive containing scripted Powerpoint files, hands-on activities and instructions, handouts, and other support materials. They gained valuable knowledge about the many online resources available to better help them answer their customers' pest questions. Visit UC IPM's Retail portal page to find many of these resources at http://ipm.ucanr.edu/RETAIL.

## *Future training*

UC IPM plans to offer future workshops on vertebrate pest identification and management tools, new tools and resources, and other emerging pests and topics. Keep an eye out for announcements about upcoming workshops. Subscribe to this newsletter and follow UC IPM on social media!

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ucanr.edu/blogs/UCIPMurbanpests/

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# Rodent Control in and Around Backyard Chicken Coops

Keeping backyard chickens is becoming increasingly popular in residential areas around California. Your store may be selling pre-made chicken coops, feed, or other accessories, or you may be getting questions about rodent pests in chicken houses.

Chicken coops are sometimes associated with mild to serious rodent infestations. Rodents, such as rats and house mice, are not only predators of chickens and eggs, they can carry and transmit many diseases to both chickens and humans. For rodents, as well as most pests in and around the home and garden, advise your customers to use proactive instead of reactive management practices to address potential problems or issues.

UC ANR

*A backyard chicken coop.*

UC ANR

*Standard chicken wire is large enough for rodents to fit through.*

J.K. CLARK, UC IPM

*Adult roof rat.*

UC ANR

*House mice can be pests in chicken coops.*

## *Sanitation*

Rodents are attracted to sources of food and water found in many chicken coops. To limit these attractive items:

- Remove chicken food at night. Use a mobile chicken feeder and store it in a place inaccessible to rodents. Use a rodent proof container made from heavy duty metal or plastic to prevent access.
- Keep your chicken coop as clean as possible. Remove any spilled grain on a nightly basis that may attract rodents or other pests.
- Do not leave eggs in the coop overnight. Eggs are an excellent food source for rodents.
- Place a 6-inch buffer (wide and deep) of pebbles around your chicken coop. This can help deter rodents from entering the coup.

## *Exclusion*

Exclusion can be a very long lasting and effective method for combating rats and mice. Mice can squeeze through very small holes (< 1/4 inch) so it is important to repair any opening to the chicken enclosure that mice could potentially get through.

It is more difficult for rodents to gnaw on flat surfaces of durable materials. Make sure the surfaces of your chicken coop are well constructed from hard materials such as concrete, galvanized sheet (24 gauge), brick, or hardware cloth (24 gauge).

Keep all doors and hatches to chicken coops closed to prevent easy rodent access and ensure doors are well sealed. Do not use materials like plastic sheathing, wood, rubber, or green cement to seal openings. These gnawable materials don't work well and can be used as access points for rodents. Stuffing steel wool into openings is only a temporary fix.

## *Trapping*

Trapping is a very effective method of rodent control. However, be aware that traps have the potential to injure curious birds, too. Place traps under milk crates or other areas where chickens do not have access. You can also set traps at night when chickens are inside the coop. Multiple-capture live traps catch several mice at a time without having to be reset, but live mice must then be removed and humanely euthanized. According to California law, if you live trap a mouse or rat, you must either release it where you caught it or kill it humanely.

Rats are especially neophobic (afraid of new things), so to increase your trapping success, bait traps with a locally-available food source such as chicken feed.

## *Rodenticide*

Consumers do not have many rodenticide options due to California restrictions on application. Rodenticide can only be applied in secured, tamper-resistant bait stations, which are sold at many retail nurseries and garden centers. According to California law, rodenticide must be placed within 50 feet of a man-made structure. It is not recommended to place rodenticide in a bait station where they can be accessed by chickens.

While uncommon, chickens can eat rodent carcasses and have even been known to catch live mice. Therefore, restricting their access to rodents that may have ingested an anticoagulant rodenticide is important because

*... continued on page 4*

# Rodent Control ...continued from p.3

rodenticides can accumulate in the rodents and if consumed by chickens, may cause them to acquire rodenticide secondarily (secondary toxicosis).

If you want to use a rodenticide but are worried about the risks, you can use an acute toxicant. These products do not cause secondary toxicosis. However, there are no antidotes to reverse the actions of these rodenticides. An antidote is only available when using an anticoagulant rodenticide.

If you use rodenticides as a management method, it is extremely important to completely restrict chicken access to them. If consumed by a chicken, they can cause death.

You can learn more about managing rats and mice on the vertebrate pages of the UC IPM web site at ipm.ucanr.edu. For more information about raising backyard chickens, see the UC Cooperative Extension Backyard Poultry Resources web site at http://ucanr.edu/sites/poultry/type/backyard/.

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# Widows Pest Note Updated

The black widow spider is known and feared by many people due to its venomous bite. However, in the past decade in California, a change in widow spider populations has occurred. A newer invasive spider called the brown widow may be displacing black widow spiders in some urban habitats.

Brown widow spiders are now common in urban areas of Los Angeles, Orange, San Diego, Riverside, San Diego and San Bernardino counties. People have also reported finding them in Ventura and Santa Barbara, and experts believe they may eventually be found in other areas of the state.

You can read more about widow spiders in California in the newly updated Widow Spiders and Their Relatives Pest Note at http://ipm.ucanr.edu/PMG/PESTNOTES/pn74149.html (previously titled Black Widow and Other Widow Spiders) by Rick S. Vetter, retired spider expert from UC Riverside.

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*Mature female western black widow spider.*

R. VETTER, UC RIVERSIDE

*Mature female brown widow spider.*

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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 ipm.ucanr.edu.






**WHAT IS IPM?** Integrated Pest Management (IPM) programs focus on long-term prevention of pests or their damage through a combination of techniques including resistant plant varieties, biological control, physical or mechanical control, and modification of gardening and home maintenance practices to reduce conditions favorable for pests. Pesticides are part of IPM programs but are used only when needed. Products are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment.