

## When Familiar Pesticides Change

**W**e all have our favorite products, whether it's laundry detergent, shampoo, or a pesticide you know works against the pests in your home or garden. But what happens when a company changes the ingredients in a product? Does it work, smell, or lather differently?

Your customers may come into your store looking for a product by name, not realizing that several popular pesticide brands have changed their active ingredients (the materials in pesticide products that actually kill or repel pests). They may not know the product has changed, and will likely not read the new labels. Because of these new active ingredients, customers may need to use the products differently or take additional precautions. There might also be changes in the way pests are controlled.

Remind customers to always read and follow the label instructions. This is the best way to ensure they purchase the correct product for their pest problem and use pesticides safely and effectively in their home, garden, and landscape. Below are three familiar pesticide products that have recently changed.

### Sevin

Sevin (Figure 1) is a familiar insecticide brand name for home gardeners used to control insects in lawns, on ornamental plants, and on vegetables. Sevin and the active ingredient carbaryl, are practically synonymous. Recently, the active ingredient in some Sevin products was changed from carbaryl (a carbamate) to zeta-cypermethrin (a pyrethroid).



Figure 1. Product labels often look very similar even when the ingredients change. On the left is the product containing zeta-cypermethrin; the one on the right contains carbaryl.

For instance, the products Sevin Insect Killer and Sevin Lawn Granules now contain the active ingredient zeta-cypermethrin. This pyrethroid is less toxic to mammals but both carbaryl and zeta-cypermethrin are highly toxic to bees and aquatic species. The new label on Sevin Insect Killer states that it controls more pests than the old product containing carbaryl, which may seem great, but the product may also kill some of the good bugs like lady beetles (ladybugs).

Another very important difference is the time the products can safely be applied on fruits and vegetables before harvest (called preharvest interval or PHI). Following the PHI reduces your pesticide exposure when you eat the food. For fruits such as apples and peaches, the PHI for the zeta-cypermethrin Sevin is 14 days, but for the Sevin with carbaryl it's 3 days. For other fruits and

vegetables, the PHI for the new Sevin label may be shorter than the carbaryl label. Again, check the label.

The Sevin Ready-to-use 5% Dust remains a carbaryl product for now. Some stores may still have containers of Sevin products containing carbaryl but as stock runs out, they are likely to be replaced with the new product.

### Roundup

Another familiar pesticide name is Roundup, a product known historically for containing the herbicide active ingredient glyphosate. Monsanto, the manufacturer of Roundup, now produces an extensive line of Roundup products containing multiple active ingredients, rather than just glyphosate alone. Many of these products contain triclopyr or diquat in addition to glyphosate. Some

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## Pesticide Label Changes ...continued from p.1



B. MESSENGER-SIKES, UCIPM

Figure 2: This Roundup product contains the herbicide pendimethalin instead of glyphosate.

don't contain any glyphosate at all (Figure 2).

### Corry's Slug and Snail Killer

In 2012, the active ingredient of the well-known Corry's Slug and Snail Killer was changed from metaldehyde to

sodium ferric EDTA, but the general look of the product box didn't change. This relatively new active ingredient is less toxic and less attractive to dogs and still effective against snails and slugs. However, the amount users apply and how quickly it works both differ from the previous active ingredient. Customers familiar with the old product may have noticed a change, but unless they read the label, they may not know why.

You can read more about sodium ferric EDTA in the March 2013 issue of the *Retail IPM News* at [ipm.ucanr.edu/PDF/PUBS/retailipmnews.2013.mar.pdf](http://ipm.ucanr.edu/PDF/PUBS/retailipmnews.2013.mar.pdf).

### Reading the Label

Since pesticide labels and contents change, encourage customers to read the product label before each purchase and use. A key item to check when shopping for a pesticide is the active ingredient, like carbaryl or glyphosate, which will

be found at the bottom of the front label. Directions for use and other precautions are essential label elements to read, especially if measuring equipment or protective gear such as gloves or goggles are needed. Customers should also be instructed that the amount needed for a given area or volume of water may have changed, so label rates should be checked before application.

For more information, see the short publication *Garden Chemicals: Safe Use and Disposal* at [ipm.ucanr.edu/QT/gardenchemicalscard.html](http://ipm.ucanr.edu/QT/gardenchemicalscard.html).

—Belinda Messenger-Sikes, UC Statewide IPM Program, [bsmikes@ucanr.edu](mailto:bsmikes@ucanr.edu)

—Karey Windbiel-Rojas, Associate Director, Urban and Community IPM, UC Statewide IPM Program, [kwindbiel@ucanr.edu](mailto:kwindbiel@ucanr.edu)

## What is a Pesticide?

When we talk about pesticides with home gardeners, it's not always clear they understand what pesticides are and even more important, how to use them correctly.

A pesticide is any material (natural or synthetic) used to control, prevent, kill, suppress, or repel pests (Figure 1). "Pesticide" is a broad term that includes insecticides, herbicides (weed or plant killers), algacides (algae and moss), fungicides (plant diseases), rodenticides, miticides (mite control), and molluscicides (snails and slugs). Even antimicrobial products such as bleach and sanitary wipes that kill bacteria on surfaces and chlorine for a pool are pesticides. If a product has a U.S. Environmental Protection Agency (EPA) Registration Number on its label (Figure 2), it is a pesticide. To make it more confusing, there are some pesticide products that are exempt from registration and won't have an EPA Registration Number.

Home-made mixtures that you make yourself to kill or repel pests are



A. SCHELLMAN, UCIPM

Figure 1. Pesticides on shelves.

technically considered pesticides. These include dish soap and water, garlic juice spray, hot pepper spray, vinegar and water, and many other such concoctions.

In future issues of this newsletter, we will discuss several pesticide topics, including the difference between organic, less toxic, and more conventional pesticides, what are "exempt" pesticides, using pesticides safely, pesticide storage and disposal, and reading and understanding labels.



B. MESSENGER-SIKES, UCIPM

Figure 2. Those surface wipes? Yes, they are pesticides too. Inset box shows the U.S. EPA Registration Number from the label.

For more information about pesticides, see the UC IPM *Pest Notes: Pesticides: Safe and Effective Use in the Home and Landscape* at [ipm.ucanr.edu/PMG/PESTNOTES/pn74126.html](http://ipm.ucanr.edu/PMG/PESTNOTES/pn74126.html).

# Mosquito Problems in Garden Centers

You've likely heard about ways to get rid of mosquito breeding sites around your home and landscape, as well as how to protect yourself from being bitten. But what should you do if you own or work at a retail nursery or garden center and want to prevent mosquitoes from breeding?

## Mosquito Development

Mosquitoes need water to reproduce. Females lay eggs on water surfaces or near water. The eggs hatch into larvae that live in water and breathe air through specialized breathing tubes (Figure 1). Larvae eat small aquatic organisms and organic matter, gradually growing until the next development stage called the pupa.

As pupae, mosquitoes are still aquatic and breathe air, but do not feed. They develop into adults and emerge out of the water as flying insects.

Adult female mosquitoes drink blood while male mosquitoes are nectar-feeders. Females of some mosquito species can carry diseases such as West Nile virus, Zika, malaria, St. Louis encephalitis, and typhoid fever.

## Prevention

Keep mosquitoes from becoming adults by controlling them in their aquatic stages. In nurseries and garden centers, pots sitting in saucers, trays that hold water, and puddles on floors and benches are critical mosquito development sites (Figure 2).

Limit these breeding sites by emptying standing water that will sit for more than



Figure 1. *Culex* mosquito larvae.



Figure 2. Hundreds of mosquito larvae can develop in even small amounts of water.

a few days. Frequently empty water from trays, fountains, saucers, or other areas. Check drains and make sure there is no debris clogging the drain and holding water.

## Treatment

If you have water displays, such as bird baths, fountains, or ponds, you can use products like Mosquito Bits and Mosquito Dunks, which contain the bacterium *Bacillus thuringiensis* subspecies *israelensis* (Bti). This is an effective method to kill mosquito larvae with reduced risk to humans, fish, or bees.

## Learn more and protect yourself

It's important that everyone working at a retail nursery or garden center understands best practices for mosquito prevention so they can inhibit mosquitoes from breeding on site. Employees can talk to customers about practices they can do at home to reduce mosquitoes to protect themselves and their families.

It is up to all of us to help in the fight to control mosquitoes and limit the spread of diseases they can carry.

For much more information about diseases such as West Nile virus, limiting mosquito breeding sites, and protecting yourself from mosquito bites, read the June 2013 issue of the *Retail IPM News* at [ipm.ucanr.edu/PDF/PUBS/retailipm-news.2013.jun.pdf](http://ipm.ucanr.edu/PDF/PUBS/retailipm-news.2013.jun.pdf) and the UC IPM *Pest Notes: Mosquitoes* at [ipm.ucanr.edu/PMG/PESTNOTES/pn7451.html](http://ipm.ucanr.edu/PMG/PESTNOTES/pn7451.html).

Find your local mosquito and vector control agency to learn what's being done in your area to reduce mosquitoes and how your store can help: [mvacac.org/about/member-agencies](http://mvacac.org/about/member-agencies).

—Karey Windbiel-Rojas, Associate Director, Urban and Community IPM, UC Statewide IPM Program, [kwindbiel@ucanr.edu](mailto:kwindbiel@ucanr.edu)



## Check out our UC IPM urban pest management blog!

Our blog provides readers with timely information about pests in and around homes, gardens, landscapes, and structures in California. We post short pieces about common seasonal pests, invasive pests, beneficials, and new UC IPM resources, including new and revised *Pest Notes*, training events, and other educational materials for residential audiences and pest management professionals. View or subscribe to the blog at [ucanr.edu/blogs/ucipmurbanpests/](http://ucanr.edu/blogs/ucipmurbanpests/).

# Don't Move Pests with Your Firewood

Whether you sell firewood or use it in the great outdoors, be aware that moving firewood can transport tree-killing insects and diseases. Find out more at the following resources:

- “Don't Move Firewood,” a campaign created by the Nature Conservancy, is an informational site aimed at the general public. You can also print posters, brochures, and other handouts.

[dontmovefirewood.org](http://dontmovefirewood.org)

- The California Firewood Task Force website offers California-specific information about invasive species and firewood.

[firewood.ca.gov/index.html](http://firewood.ca.gov/index.html)

- UC IPM Invasive and Exotic Pests webpages contain links to relevant information on current invasive pests in California.

[ipm.ucanr.edu/Invasive-and-Exotic-Pests](http://ipm.ucanr.edu/Invasive-and-Exotic-Pests)

- The California Oak Mortality Task Force website focuses on sudden oak death, a disease affecting many woody plants.

[suddenoakdeath.org](http://suddenoakdeath.org)

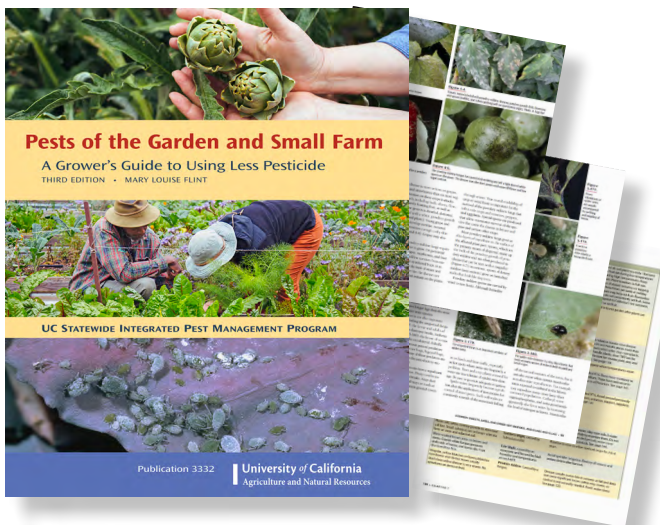


## New Resources for Home Gardeners

Order these publications and more from [anrcatalog.ucanr.edu](http://anrcatalog.ucanr.edu).

### Updated Book:

*Pests of the Garden and Small Farm, 3rd edition*  
by Mary Louise Flint



### New Pocket Card Set:

*Vegetable Pest Identification for Gardens and Small Farms*

by Mary Louise Flint, Andrew Sutherland, and  
Karey Windbiel-Rojas



#### University of California Statewide Integrated Pest Management Program

2801 Second Street  
Davis, CA 95618-7774

Editor: K. Windbiel-Rojas

Production: B. Messenger-Sikes

E-mail: [UCIPMretail@ucanr.edu](mailto:UCIPMretail@ucanr.edu)

Online: [ipm.ucanr.edu/RETAIL](http://ipm.ucanr.edu/RETAIL)



Produced by the University of California Statewide Integrated Pest Management Program with partial funding from the USDA NIFA CPPM Extension Implementation Program.

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Always read and carefully follow all precautions and safety instructions provided on the pesticide container label, as well as any other regulations regarding the use of pesticides. Not following label directions, even if they conflict with information provided herein, is a violation of state and federal law. No endorsements of named products are intended, nor is criticism implied of products not mentioned.