

# Pink spotted

By Suzanne  
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Wild harvesting  
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# lady beetles

**W**hen you ask growers to name beneficial insects, ladybugs always come to mind. There are about 5,000 species of ladybugs (or lady beetles), more than 450 of which are found in North America. Most ladybugs, in both their adult and larval stages, are voracious predators of insects.

Many growers are considering biological controls as part of their pest management programs. It's possible for ladybugs to play a key role, but not all ladybugs are equal.

When choosing a ladybug species for use as a general predator, ask your supplier many questions. You need to know where the ladybugs come from. Some suppliers sell lady beetles that have been harvested from natural winter aggregation sites, which is not recommended.

## Ask for lab bugs

Ask for a laboratory-reared species like *Coleomegilla maculata*, commonly called pink spotted lady beetles, or pinks for short. Buying laboratory-reared species will ensure that you get healthy, true-to-species insects.

This also allows you to purchase the insects in their immature stage. Immature lady beetles have a more voracious appetite than adults. These beetles need a lot of nutrition (like teenagers) to develop into adults. Since they are wingless when immature, they stay on the plants where they're applied, eating thousands of pests before turning into adults.

Entomos in Gainesville, Fla., has taken lab rearing pink spotted lady beetles a step further by developing an encapsulated artificial diet for them. What makes this so special? Many

**How these tiny predators can help control nursery pests**



Adult pink spotted lady beetles are pink to orange with six spots on each forewing.

lab-reared insects are fed other insects. To do this, you must produce the insect food source, which can be difficult and expensive.

An artificial diet contains all of the nutrition needs of the beneficial. This allows mass rearing of predators at a reduced cost and also allows predators to be shipped with encapsulated food to maintain viability during shipping. A third benefit is that adult females raised on artificial diets lay more eggs than their wild counterparts.

*C. maculata* is an oval, medium-sized ladybug about ¼ inch long. Its color will vary from pink to orange, with six spots on each forewing. Once the female lady beetle has mated, she can lay 200 to more than 1,000 eggs during her one- to five-month life span. She is selective about where she lays her eggs, locating them very close to a food source, such as aphids. The eggs are small,



Photo by Pierre Blanchet

**Rearing lady beetles on an artificial diet has proven to be an inexpensive alternative.**

orangish, spindle shaped and laid in clusters of 10 to 15.

### **Cut 'em loose**

Larvae soon emerge from their eggs and immediately look for prey. The wingless larvae don't look like adults, but more closely resemble small alligators with black and yellow bands and three pairs of legs.

Once larvae find food, they immediately begin to eat. Pink spotted lady beetle larvae and adults are general predators, eating a variety of food in their diets. They feed on almost any soft-bodied insect and love aphids, mites and insect eggs. They will also feed on pollen, so crops that produce pollen provide extra incentive for pinks to stick around.

As larvae continue to feed, they grow and need to molt their skins. They molt several times before developing into an adult. Once larvae reach  $\frac{1}{2}$  inches long (about two weeks), they attach themselves to leaves to pupate. Adults emerge in three to 12 days depending on temperature. Once adults emerge they feed, mate and the cycle repeats.

### **Annoying species**

Don't confuse pink spotted lady beetle with the multicolored Asian lady beetle, *Harmonia axyridis*. This species has become a nuisance in the United States, even though it is a voracious predator. Multicolored Asian lady beetles are attracted to light-colored and sometimes dark buildings and in winter crawl into cracks, invading homes and becoming an annoyance.

Luckily, pink spotted lady beetles don't have this habit. They overwinter in leaf litter, making them safe for release without concerns of becoming pests.

### **Trial first**

Trials are important to understand how living insects perform



**Pink spotted lady beetle larvae feed on most soft-bodied insects.**

Photo by Suzanne Wainwright Evans



**Lady beetle larvae immediately seek food once hatched.**

Photo by Suzanne Wainwright Evans



**Pink spotted lady beetle eggs are orangish in color and are laid in clusters of 10-15.**

under different conditions. Start out small to be sure your program will be compatible with your operation and growing conditions.

Ask beneficial suppliers, consultants, extension agents and other growers questions to give you ideas on how to run your program and to help you avoid possible pitfalls.

Biological control is almost always incorporated with a pesticide spray program, as part of an integrated pest management program. It can be very successful, but you must make the commitment to the program to achieve your goals.

◆ **For more:** Entomos LLC, 4445 S.W. 35th Terrace, Suite 310, Gainesville, FL 32608; (352) 371-6490; fax (352) 371-4181; [info@entomos.com](mailto:info@entomos.com); [www.entomos.com](http://www.entomos.com).

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## Beware of using wild-harvested ladybugs or beetles

**M**any ladybugs in the western United States head into the mountains by the millions to spend months in huge hibernating masses. These are usually convergent lady beetles, *Hippodamia convergens*.

Collectors come along and scoop up the hibernating ladybugs and ship them out for release. Once released into a nursery or landscape, they usually migrate before feeding or laying eggs, providing little or no control for your target pest.

Harvested ladybugs may be parasitized by a small wasp, *Perilitus coccinellae*. It develops as an internal parasite of lady beetles and kills them.

Also, harvesting from the wild is also not environmentally sustainable.