

MESSENGER-INQUIRER

	University of Kentucky College of Agriculture, Food and Environment <i>Cooperative Extension Service</i>
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Good Insects Bugs in the Garden

Insect pests seem to get all the attention, but there are other beneficial insects besides pollinators. Identifying insects as pests or good ones is important. Two common beneficial insects found in the garden are praying mantis and ladybugs. Often the ladybugs are found with insect pests.

The praying mantis or mantids is a very efficient and deadly predator that captures and eats a wide variety of insects. They have a "neck" that allows their head to rotate 180 degrees while waiting for a meal. Camouflage coloration allows mantids to blend in with the background so the unsuspecting prey wanders into the area and is captured.

The two front legs of mantids are highly specialized. When hunting, mantids assume a "praying" position, folding their legs under their head. They use their front legs to strike out and capture prey. Long, sharp spines on the upper insides of these legs allow them to hold on to their prey firmly while eating it. The spines fit into a groove on the lower parts of the leg when not in use.

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There are three species of mantids in Kentucky. The smaller, dusty-brown Carolina mantid (*Stagmomantis carolina*) is only about 2 inches long when fully grown. This mantid is a native insect. The pale green European mantid (*Mantis religiosa*) is about 3 inches in length. The large, 3- to 5-inch-long, Chinese mantid (*Tenodera aridifolia sinensis*) is green and light brown.

A female mantid lays groups of 12-400 eggs in a frothy liquid that hardens into a protective shell where they survive the winter. Small mantids emerge in the spring. Often, the first meal is a sibling because they are cannibalistic by nature. This process naturally limits the number of mantids in the area. It takes a summer or growing season for mantids to mature to adulthood. This is when the wings are fully developed. Mantids here have only one generation of offspring per year.

Young mantids will eat many different types of insects that are about their own size or smaller, including their siblings when food is scarce. Fruit flies, pinhead crickets, and other small insects are excellent food for young mantid nymphs. As the nymphs increase in size, they eat larger prey.

Another beneficial group of insects is the ladybugs, also called lady beetles. Dr. Ric Bessin, University of Kentucky Extension Specialist for Entomology, describes the ladybug and common ones found in Kentucky below. One ladybug may eat up to 5,000 aphids, which are soft-bodied insect pests that feed on plants.

The adult ladybug has a hemispherical to oval body that can be yellow, pink, orange, or red, usually with distinct spots. This bright coloration is a warning to discourage other animals

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from eating them. When disturbed, the ladybug produces an odorous, noxious fluid that seeps out of its joints. The predator is reminded by these bright markings to avoid it in the future.

Adult female ladybugs lay clusters of small yellow eggs on plants close to aphid, scale, or mealybug colonies. The alligator-like larvae that emerge feed on insect pests too. They are spiny and black with bright spots. Even though they look like pests themselves, they are not dangerous to humans. The larva pupates on the leaf after feeding on insect prey for several weeks. The adults move away when pests become scarce, but the larvae remain to search for more pests.

All life cycle stages can be found during the summer. Some species have several generations each year and others only have one. Adults of some species spend the winter in a large cluster under leaf litter, rocks, or other debris.

Several ladybug species are commonly found in Kentucky in home gardens, landscapes, and agricultural fields. One of those is the pink spotted ladybug, *Coleomegilla maculate*. It has a medium-sized, oblong pink to red body with black spots. They eat mites, insect eggs, and small larvae. This one is unique because 50% of its diet is made up of plant pollen.

The Asian lady beetle, *Harmonia axyridis*, is large, orange, and may or may not have spots on its back. There is a black 'M' over a white background on the head segment. Even though it is beneficial, it becomes a nuisance when they find their way into homes to overwinter. If squashed they leave a stain which ruins rugs, furniture, and paint. Remove them from the home with a vacuum cleaner.

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The convergent lady beetle, *Hippodamia convergens*, is considered medium in size. It is orange and black and often sold as a biological control for aphids.

The seven-spotted ladybug or ‘C-7’, *Coccinella septempunctata*, has seven black spots on an orange background. It is medium-sized. It was introduced from Europe to help with managing aphid pests.

To maximize their impact in the important role of managing some insect pests, learn to recognize the different life stages of the ladybug. Only apply insecticides as a last resort. When necessary, use selective ones if possible, and use limited area treatments.

For more information about ladybugs and praying mantids, call the Daviess County Cooperative Extension Service Office at 270-685-8480, or email annette.heisdorffer@uky.edu.

Annette’s Tip:

Great photos and more information about insects in Kentucky can be found at the University of Kentucky Entomology Department at <http://entomology.ca.uky.edu/extension-entomology>.

Upcoming Event:

DIY Vegetable Gardening Series: Insect and Disease Scouting is on May 16 at 1:00 p.m. and repeated at 6:30 p.m. at the Daviess County Cooperative Extension Service Office, 4800A New Hartford Rd.

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