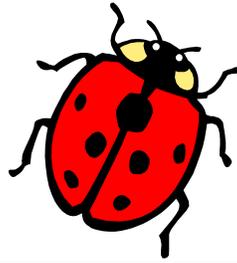


## Bug-Wise

No. 20  
August 30, 2004



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**Prepare for the Lady Beetle Invasion:** The multi-colored Asian lady beetle, *Harmonia axyridis*, specializes in preying on tree-dwelling aphids and this year's outbreak of Asian woolly hackberry aphids, combined with large numbers of crape myrtle aphids, has resulted in a bumper crop of Asian lady beetles. As fall approaches, these lady beetles will be looking for a place to spend the winter. In their native country they congregate in light-colored rocky outcrops, where they overwinter in cracks and crevices among the rocks.

Here in Mississippi we do not have many rocky outcrops for these insects to use as overwintering quarters, but light-colored buildings seem to make a fine substitute. They are especially attracted to buildings with an un-shaded western or southern exposure. Once the lady beetles land on the side of the building they search out cracks and crevices, which results in their entry into wall voids and attics where they often congregate in large numbers. As temperatures warm in the spring, overwintering lady beetles begin to search for cracks and crevices through which to leave their overwintering quarters. Many of these beetles 'get lost' and find their way into the inside of the building, rather than the outside.

Whether they invade the home in the fall, during warm spells in winter, or during the spring as they attempt to leave their overwintering quarters, these otherwise beneficial insects can become a serious nuisance, especially when they occur in large numbers. The best way to avoid this problem is to prevent them from entering the home in the first place, and that means taking steps to make the exterior of the home 'bug-tight' before these insects begin searching for overwintering quarters.

The key is to seal or screen any opening that is greater than 1/16 inch in diameter. This is easier to do on some homes than others. Homes that have overlapping board-type siding nailed directly to the wall studs, without any type of solid wallboard in between, are especially problematic, because there can be literally hundreds of feet of potential entry points. However, on many homes it is relatively easy to identify and seal potential entry points, and taking the time to do so now can avoid much frustration later in the winter.

Doors and windows are obvious potential points of entry and installing sweeps on door bottoms, and metal spring strips or weather stripping around door jambs can help keep lady beetles from entering at these points. Entry points around plumbing and conduit can be sealed with caulking or foam sealant, as can cracks in brickwork and woodwork. One of the most important steps is to check all attic, roof and soffit vents to be sure that they are adequately screened and bug-tight. Unscreened soffit vents can be a prime point of entry, but lady beetles can also enter around screened soffit vents if they do not fit tightly against the soffit. Many homes have ridge vents or other types of vents on the roof through which beetles can enter if they are not properly screened. Special attention should be given to proper screening of the large gable vents that are located on the ends of many houses. Obviously, each house has its own unique set of potential entry points, and each house must be considered on a case-by-case basis.

It is important to emphasize that **exterior screening and sealing efforts must be completed before the beetles enter the building.** Sealing buildings after the fall overwintering period begins will only intensify the problem by sealing the beetles inside attics and wall voids and forcing them into the interior of the building. However, sealing efforts focused on the interior side of the wall and ceiling can be initiated at any time. Here the focus is to seal around electrical outlets, light fixtures, and other holes in interior walls and ceilings in order to prevent beetles that are overwintering in attics and wall voids from being able to make their way into rooms.

Insecticides play very little role in managing invasions of Asian lady beetles. However, residual sprays of synthetic pyrethroid insecticides can be applied to exterior walls of ‘invasion prone’ buildings in an effort to reduce the number of beetles that successfully enter the building. Such treatments are most beneficial on those buildings that have so many potential entry points that they cannot be effectively sealed. Where sealing is practical, it is far more effective than relying on insecticides. Pyrethroid insecticides that are labeled for use as residual sprays to exterior walls include permethrin, cyfluthrin, cypermethrin, deltamethrin, and bifenthrin. Several of these insecticides are available for use by homeowners, but many homeowners may wish to have such treatments applied by a licensed pest control company. Always read and follow label directions.

**Leaf-footed Bugs:** Although they also occur on many other vegetables and fruit, leaf-footed bugs, *Leptoglossus phyllopus*, are one of the most serious and persistent pests of fall-grown tomatoes. These insects also have a large number of weed hosts and typically build to heavy populations by late summer. Adults are very mobile and tend to congregate on favorable hosts in large numbers.

This insect uses its piercing-sucking type mouthparts to feed on tomato fruit, causing lesions and distorted fruit. These insects are similar to stink bugs but are larger and more elongate (approximately 3/4 inches long). Adults are grayish brown with a distinct white stripe across the back. However, their most distinctive trait is their flattened, leaf-shaped hind legs. There are also other, less common, species of *Leptoglossus*. Leaf-footed bugs are often mistakenly referred to as squash bugs, but squash bugs do not have the leaf-shaped hind legs nor do they have the white line across the back. Also, squash bugs confine their attention to cucurbits. Damage by leaf-footed bugs is caused primarily by the adults, which can invade tomato plantings in high numbers in late summer and early fall. Leaf-footed bugs tend to fly and leave the plants when disturbed, but they return soon after the disturbance has passed. This habit makes leaf-footed bugs somewhat difficult to control with foliar sprays in small plantings.

One approach to managing this pest is to plant early and simply avoid the high numbers of leaf-footed bugs that are common in late summer and fall. However, this is of little help to the gardener who wants to have fresh tomatoes right up to frost. Sunflowers can be used as a ‘trap crop’. Heavy numbers of adults and nymphs will often congregate on developing sunflower heads, where they can be killed with contact sprays. To be effective as a trap crop, sunflowers should be planted at such a time that they will be blooming and filling seed when the fall tomato crop is ripening. However, if not treated, sunflowers will serve as a ‘nursery’ crop, resulting in higher populations of leaf-footed bugs. The following table lists several insecticides that can be used to control leaf-footed bugs on tomatoes. These treatments will also control stink bugs. To be most effective these treatments must contact the insects directly, and this is often difficult to achieve because adults will often fly away at the first sign of disturbance, only to return later. Spraying very early in the morning when temperatures are cooler and bugs are less likely to fly is the best way to minimize this problem.

### **Insecticides For Control of Leaf-footed Bugs on Home-grown Tomatoes**

<b>Insecticide (PHI in days)</b>	<b>Brand Name (one example)</b>
carbaryl (3)	Garden Tech Sevin Concentrate Bug Killer
cyfluthrin (1)	Bayer Advanced Garden Multi-Insect Killer
endosulfan (1)	Thiodan
lambda-cyhalothrin (5)	Triazicide Soil & Turf Insect Killer
permethrin (1)	Martin’s Vegetables Plus 10% Permethrin Concentrate
malathion (1)	Hi Yield Malathion Insect Spray
pyrethrins (0)	Monterey Take Down Garden Spray

This information is for educational and preliminary planning purposes only. Brand names mentioned in this publication are used as examples only. No endorsement of these products is intended. Other appropriately labeled products containing similar active ingredients should provide similar levels of control. Always read and follow the insecticide label.