



Pest Watch: Lily Leaf Beetle

WASHINGTON STATE UNIVERSITY EXTENSION FACT SHEET • FS084E

WSU Extension *Pest Watch* fact sheets identify new agricultural pests in or near Washington State that pose environmental and economic threats. In the event of a severe pest outbreak, a *Pest Alert* will be issued with emergency pest management and control information.

Introduction

The lily leaf beetle (LLB), *Lilioceris lili*, is a bright red beetle in the Chrysomelid family native to Europe and Eurasia. In its native range, LLB is a pest of exotic and hybrid lilies.

Distribution

Lily leaf beetle was first discovered in North America in Montreal, Canada, in 1945. In 1992, LLB was found for the first time in the United States in Cambridge, Massachusetts. Since then, LLB has spread through New England and now occurs in Maine, New Hampshire, Massachusetts, New York, Connecticut, Rhode Island, and Vermont. In the spring of 2012, an alert homeowner reported this beetle to the Washington State Department of Agriculture and LLB was recorded in Washington State for the first time. Upon investigation, LLB was found in the southwest neighborhoods of Bellevue, just east of Seattle.

Identification and life cycle

Adult beetles are 1/4 to 3/8 inch long and conspicuously colored bright scarlet red, with the head, underbody, legs, and antennae black (Figure 1). Adult beetles are very active and mobile, and they make a defensive chirping or squeaking noise when provoked. Adult beetles overwinter in the soil and emerge in the spring to feed on developing foliage and seek mates.

Lily leaf beetle can complete its life cycle on true lilies (*Lilium* spp.) and fritillaries (*Fritillaria* spp.). Mated adult females lay eggs in small batches in irregular rows on the underside of host plant leaves, laying up to 450 eggs during the season (Figure 2). The small orange-brown eggs hatch in one to two weeks. Larvae are orange to light green, but cover themselves in excrement and resemble slime-covered



Figure 1. Adult lily leaf beetles in Bellevue, Washington. (Photo courtesy of E. LaGasa, WSDA.)

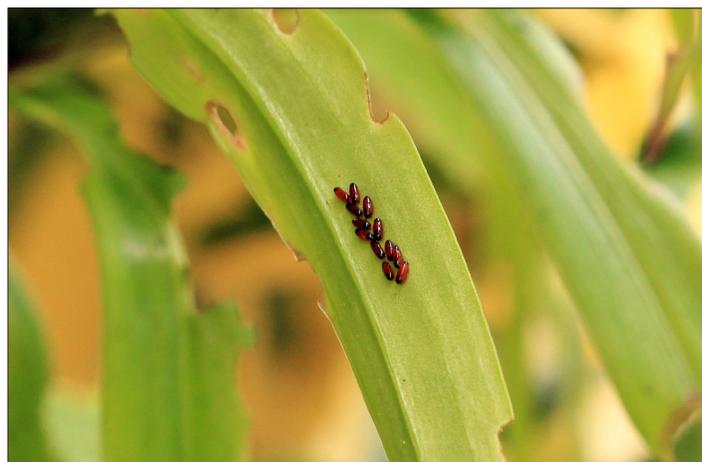


Figure 2. LLB eggs laid in irregular rows. (Photo courtesy of E. LaGasa, WSDA.)

This fact sheet is part of the WSU Extension Home Garden Series.



Figure 3. LLB young larvae feeding on underside of lily leaf. (Photo courtesy of E. LaGasa, WSDA.)

slugs (Figure 3). This behavior is likely a defensive tactic to ward off or hide from predators.

In the northeastern United States, larvae feed and develop for three to four weeks, then migrate to the soil to pupate for another three to four weeks. Adults emerge and feed on foliage until fall when they move into the soil to overwinter. In North America, only one generation per year has been reported, though up to three generations per year have been reported in Europe.

Pest Damage

Researchers in the eastern United States have found Asiatic lily hybrids to be most susceptible to LLB while some Oriental varieties are resistant. *Lilium henryi* 'Madame Butterfly', *L. speciosum* 'Uchida', *L. 'Black Beauty'*, *L. regale* and *L. 'Golden Joy'* appear to be most resistant. Adult LLB can also feed on some plants in the following genera: *Polygonatum*

(Solomon's seal), *Solanum* (such as bittersweet nightshade and potatoes), *Smilax*, and *Nicotiana*. Daylilies (*Hemerocallis* spp.) are not impacted by this pest.

Newly emerged larvae feed on the undersides of leaves. As larvae mature, feeding damage becomes more apparent on older leaves and sometimes stems and flowers.

Pest Management

Use of effective insecticides have not been studied in Washington State; visit WSU's Hortsense (<http://pep.wsu.edu/hortsense/>) for current recommendations. In areas where LLB is common, it is important for gardeners to check lilies often in the early season, beginning in April, to check for the pest and its damage.

Handpick and physically discard adult beetles, eggs, and developing larvae. Handpicking beetles can greatly reduce the amount of damage caused. Be sure to also remove eggs on the underside of leaves. Continue these practices throughout the season.

As of spring 2012, LLB is only known to occur in King County. If you find specimens outside of King County:

1. Collect samples and submit them for identification.
 - If you collect adults, freeze them in a crush-proof container, or
 - If you collect larvae, place them in household vinegar or jell hand sanitizer to preserve the sample.
2. Bring samples to your local Extension office or Master Gardener clinic (<http://ext.wsu.edu/locations/>); or
3. Contact the WSU Puyallup Plant & Insect Diagnostic Laboratory (<http://www.puyallup.wsu.edu/plantclinic/>).



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Header photo of lily leaf beetle courtesy of Richard A. Casagrande, University of Rhode Island, Bugwood.org.

Use pesticides with care. Apply them only to plants, animals, or sites as listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

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