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Lily Leaf Beetle

Introduction

At first encounter, many gardeners admire the striking crimson insects on their lily plants in early spring — until they discover the damage a few beetles and their larvae can do to a bed of prized lilies in a short time.

The brilliant red Lily Leaf Beetle (LLB) is a European native first sighted in New England in Cambridge, Massachusetts in the summer of 1992. Although the insect has been living in and around Montreal, Canada, since 1945, experts believe it came into New England with a shipment of European bulbs.

Because the insect is a strong flier and lacks natural predators here, the LLB has spread north to become common throughout coastal and central New Hampshire and into Maine.

Description

A beautiful insect, the adult LLB is ¼" to ½" long with a bright scarlet body and black head, antennae, legs and underside. Adults squeak when gently squeezed, a natural response evolved to deter predators. LLB larvae look like slugs with swollen orange, brown, yellowish, or even greenish bodies and black heads. They carry their dark excrement on their backs. Both adults and larvae feed first on lily leaves, then the flowers and stems.

Life Cycle

The adult beetle emerges from the soil in early spring. Females lay irregular rows of yellow-orange cylindrical eggs on the undersides of leaves of young lily plants. The eggs hatch in a week to 10 days under normal conditions. Females lay up to 450 eggs, sometimes over two growing seasons.

Larvae cause more damage than adults, feeding for 16-24 days, primarily on the undersides of leaves before entering soil to pupate.

New adults emerge from their florescent orange pupae in 16-22 days and feed until fall. Adult beetles overwinter in the soil or plant debris in the garden or woods, sometimes a distance away from the host plants, preferring environments that are shaded, protected, cool, and moist. They do not mate or lay eggs until they emerge the following spring.

Although the beetles may feed lightly on many plants, including *Fritillaria* sp., *Polygonatum* sp. (Solomon's seal), *Solanum dulcamara* (bittersweet nightshade), *S. tuberosum* (potato), *Smilax* sp., *Nicotiana* sp., *Alcea* (Hollyhocks) and Hostas, they lay eggs and develop only on *Liliuim* and *Fritillaria* species. They do not attack daylilies.

Control

Non-chemical Control

Close, frequent monitoring beginning in early spring is the key to managing this pest. Handpicking in the early morning is the best control for home gardens. Crush the insects or throw them into a jar of soapy water. If you're squeamish about handling the slimy larvae, we suggest wearing latex gloves when handling them. Search the leaf undersides for the egg masses and crush them or remove the leaves.

Chemical Control

The insecticides carbaryl (Sevin) and malathion will control adult lily leaf beetles and their larvae. Cyfluthrin (a pyrethroid), used either alone or premixed with imidacloprid in the Advanced line of chemicals can be used as a foliar spray. These pesticides are toxic to many nontarget insects; carbaryl is highly toxic to bees.

Neem, a botanical pesticide newly registered by the U.S. Environmental Protection Agency, kills young larvae and repels adult lily leaf beetles. Neem may require multiple applications. Labels vary depending on the manufacturer. Read the label to ensure your product is registered for beetles on ornamental plants.

The University of Rhode Island Biological Control Laboratory, Department of Plant Sciences, is currently testing several species of parasitic wasps that attack lily leaf beetles. They are hoping their research leads to a release of one or more of these predator species.

Technical review and pesticide recommendations by Dr. Stanley Swier, UNH Extension Entomology Specialist

Information adapted from a fact sheet developed at the Biological Control Laboratory, Department of Plant Sciences, University of Rhode Island, Kingston, RI.