



# Garden Tips

## Treating Insects and Diseases: Red Lily Leaf Beetle, Rhododendrons & Verticillium Wilt

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I now look at insects and diseases as projects and not problems. Here are some of my experiences and solutions dealing with the red Lily Leaf Beetle, Rhododendron, and Verticillium Wilt.

### **Red Lily Leaf Beetle**

In the early spring I noticed my lilies were being eaten daily. The plant had a red beetle on it. In doing some research I found it was called a red lily leaf beetle. Here are some details:



Red Lily Leaf Beetle

Origin: The red lily leaf beetle (*Lilioceris lili*) is an insect native to Asia and Europe which spread rapidly through New England from Eastern Massachusetts, although the beetle has been active in the Montreal, Canada area since 1945.

Damage: If uncontrolled, it will completely defoliate and kill all true lilies.

Description: The adult beetle is bright red, with black legs, head and antennae, and the underside is 1/4" to 3/8" long. It is a strong flyer. The adult lays reddish-orange eggs which hatch larvae, looking like long slugs. The orange-reddish larvae cover themselves with their own excrement which repels predators. The larvae become fluorescent orange pupae.

Life Cycle: The adult beetle over-winters in the soil or plant debris and emerges in early spring looking for food and a mate. After mating, the female lays eggs in lines on the underside of the species *Lilium* or *Fritillaria*. Some damage is done at this time, but the major damage comes when the eggs hatch. For 2 to 3 weeks in spring, the larvae consume all leaves within reach and start on flowers. The larvae then drop into the soil and begin to pupate.

Biological Control: There are no natural predators in this country, although there are at least six parasitoids (e.g., wasps) in Europe that attack it.

Active Control: 1) Hand picking is always advised to start. If you don't see any beetles, but you suspect they are there, dig just an inch down into the soil. They hide just under the surface. 2) NEEM is the next step. NEEM needs to be applied every 5 to 7 days after the eggs hatch. 3) MERIT (imidacloprid) is a systemic insecticide which may work if applied to the soil in early spring, and later in the season. 4) Bayer rose and flower spray has provided excellent control.

***Important: Read all labels. Spray when beneficial insects are not around and let dry.***

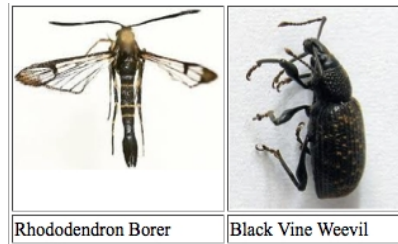
Other chemicals of relatively low toxicity include:

5) 10% household AMMONIA applied to new lily sprouts and surrounding soil.

6) PYRETHROID insecticides (permethrin) kills adult beetles. 7) SPINOSAD insecticide kills larvae.

These are nasty little beetles and by now they are not in sight, but they will be back.

**Rhododendron** ~ After our winter with heavy snows and ice that weighted down and broke the branches of my Rhododendrons, something was eating the leaves. There were half-circle shaped notches and dried out stems. In talking to some fellow Master Gardeners and doing some research, I found BLACK VINE WEEVIL (*Otiorhynchus sulcatus*) was eating the leaves, and the dried branches were caused by a Rhododendron Borer.



Rhododendron Borer (*Synhedon rhododendri*) ~ This clearwing moth lays its eggs on the bark and in the branch crotch of the shrub. The larvae tunnel into the branch, severely weakening it structurally. The leaves wilt and the damaged branches turn brown. These branches should be pruned and disposed of properly (sanitation!). Spraying in May is advised.

Black Vine Weevil: The insecticide ORTHENE is registered for rhododendrons. Spray in May, and two other applications two weeks apart is advised. This is to control the black vine weevil adults. The key is to spray early to prevent the adults from laying their eggs. Weevils also eat the roots which will kill the shrub.

**Verticillium wilt** is a fungal disease that affects the plant's vascular system. Unfortunately one of my lilac trees was affected. It was beyond help, so I had to remove it.

Solution: Soil solarization is a non-chemical method for controlling soil-borne pests using high temperatures produced by capturing radiant energy from the sun. This method involves heating the soil by covering it with a clear plastic tarp for 4 to 6 weeks during the heat of summer. This allows the top 12 to 18 inches of soil to heat up to between 104 degrees F and to 110 degrees F and killing a wide range of soil-borne pests such as weeds, pathogens, nematodes and insects. This is a safe way to remove pathogens, and it adds nutrients to the soil. If you have time, look it up online and you will be amazed. There are no chemicals used and it cleans up the soil.

Enjoy your gardens.

Resources:

University of California Agriculture and Natural Resources

Garden Web

Ohio State University Extension fact sheet

Cornell Cooperative Extension Center