

## Oak Leafroller

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Oaks are favorite hosts of a large number of native caterpillars that feed on the leaves throughout the growing season. In most cases, these caterpillars cause little damage and the feeding is seldom noticed. Caterpillars are important food sources for predators, such as birds and squirrels, which normally keep native caterpillar populations in balance. Periodically, an outbreak occurs that causes extensive oak defoliation, which may weaken the trees—particularly when the outbreak is in early spring. Two consecutive years of defoliation can result in mortality of newly transplanted trees, old trees, or those trees stressed by other factors such as drought or root damage.

### Introduction and Range

The oak leafroller, *Archips semiferanus*, is one of a group of spring-feeding caterpillars that roll, fold, or tie leaves together with silk (Figure 1). Caterpillars produce silken threads from which they will spin down from branches. In severe outbreaks, silk threads can cover the bark and ground beneath the tree (Figure 2). The dangling caterpillars are a severe annoyance to people. This insect has a wide distribution throughout the eastern half of the United States and southeastern Canada where it feeds on most species of oak as well as pear, apple, and crabapple.

### Biology

The adult oak leafroller is a small brown moth that is active in late spring to early summer. Following mating, the female lays eggs on twigs in the crown of its host. Eggs hatch the following spring coinciding with new growth, and small green caterpillars web together young leaves concealing themselves in the folds of the leaf as they feed. As larvae grow in size, they roll the margins of a single leaf and feed from within (Figure 3). When disturbed, larvae spin down on silk threads that can eventually cover the bark and ground. In severe outbreaks, infested trees can be completely defoliated within weeks to a month of

**Figure 1: Oak leafroller caterpillars roll leaves together with silk**



**Figure 2: Silk threads cover the bark and ground**



**Figure 3: Oak leafroller caterpillar feeds on a leaf**



caterpillar emergence. Fully grown caterpillars are green and less than an inch long. They pupate within rolled leaves, on bark, or on vegetation beneath the tree. In late spring or early summer, moths emerge from pupae as adults.

### Management

In most years, populations of oak leafroller are minimal and maintained in low numbers by parasites and predators. When outbreaks develop, a single foliar treatment will often prevent defoliation and the aggravation associated with dangling caterpillars. Organic and natural-based foliar treatments are available to effectively suppress this pest. If foliar treatment is not preferred, a systemic treatment by root flare injection will also suppress this pest. This treatment can be done in the late summer prior to the following year's infestation or in early spring coinciding with new growth.

On trees that have been severely defoliated, fertilization based on soil analysis is recommended to promote new growth. Mulching the root zone of the tree and irrigating during dry periods also aids in recovery following severe loss of leaves. Please contact your Bartlett Arborist Representative to learn about management strategies.



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