

BAGWORMS (THYRIDOPTERYX EPHEMERAIFORMIS)

Description

Bagworms are pests on many kinds of conifers and deciduous trees, though they're most frequently found on arborvitae and junipers. The dark brown bagworm caterpillars are 1/8 to 1/4 inch long when they first hatch, eventually reaching one inch long. As the insect feeds, it creates a silken case covered with the leaves made from the host plant, binding the bag together and attaching it to the plant with a silken thread. The bag will look different depending on the host plant. For example, the bag on a maple will look different from a bag on an arborvitae. Since bagworms add plant materials to the top of the bag, the freshest and greenest material is on the top of the bag. When you see a bag that is entirely brown, the insect inside has stopped feeding or is dead. The bags are ultimately 1 ½ to 2 ½ inches long. Once a plant is infested, populations can grow quickly.



LIFE CYCLE

Bagworm caterpillars emerge in June and immediately begin feeding on host plants. They are easily blown to other plants. They feed and construct their case for about three months. When the larvae are mature, they fix their bags to a branch, binding it to the branch with silk. In late summer, the insects pupate for seven to ten days. Females never develop wings or leave their bags. The adult males are 1- inch black moths with clear wings that fly to a female's bag to mate. After mating, the female lays up to 1,000 eggs within her bag and dies. Bagworms overwinter as eggs in the bag of the mother. There is one generation per year.

SYMPTOMS & DAMAGE

Bagworms usually begin feeding at the top of the tree. When small, the caterpillars feed in the layers of the leaf tissue, creating light patches on leaves. As they age, they consume entire needles or leaves. A severe infestation may defoliate plants, which can kill branches or entire plants. A healthy deciduous tree or shrub that has been defoliated usually produces a new flush of leaves and survives. However, a defoliated evergreen cannot push out an additional set of leaves and may die.

CONTROL CULTURAL

Bags can be handpicked and destroyed from fall through spring, thus removing the eggs.

BIOLOGICAL

Bacillus thuringiensis var. 'kurstaki' (Btk) can be used on young larvae but is not as effective on older larvae. Thorough coverage of the plant is important, as Btk must be eaten to be effective. According to research, certain species of beneficial nematodes, such as *Steinernema carpocapsae*, attack bagworms. The nematodes are sprayed onto the bags, infecting and killing the female bagworms inside the bags. The nematodes must be applied before females lay eggs.

CHEMICAL

Insecticides are best applied two weeks after bagworms begin to hatch (generally near the fourth of July). This allows time for all the caterpillars to blow onto the plant before being controlled. A second spray a week after the first may be necessary. Insecticide sprays are effective on young caterpillars, but older caterpillars are more difficult to control. Insecticides recommended for control include:

- spinosad
- cyfluthrin
- trichlorfon

Refer to the Illinois Urban Pest Management Handbook (University of Illinois Cooperative Extension Service) for a complete listing of chemical recommendations. Use pesticides safely and wisely; read and follow label directions.

The pesticide information presented in this publication is current with federal and state regulations. The user is responsible for determining that the intended use is consistent with the label of the product being used. The information given here is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement made by The Morton Arboretum.