

The Bagworm

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The bagworms' carrot-shaped bag is constructed of bits of material from the plant upon which it is feeding and is enlarged as the bagworm grows. The bag is carried wherever the worm goes. When disturbed, the bagworm merely pulls its head back into the bag for protection.

Do not confuse the Eastern Tent Caterpillar (ETC) worms for bagworms. ETC worms prefer cherry. A mass of worms live within a cobweb but leave it to crawl out on the branches to feed on the foliage. Bagworms live in individual bags.

Bagworms are especially fond of junipers, cedars, arborvitae and white pine, but may be found on more than 128 species of plants. Damage is done by the larvae eating plant foliage. Maturing larvae can do considerable defoliation during the summer. More than one year of severe defoliation would be required to kill a healthy plant, but a nursery producer cannot tolerate the damage and lost growth.

Bagworms only have one generation per year. Eggs usually hatch in mid to late May in Middle Tennessee. Upon hatching, the young larvae crawl out of the bottom of the bag and begin feeding and constructing a silken shelter over their body.

They are very mobile in their search for food. They can use wind currents to glide or float, suspended from a long silken thread. On a windy day, the caterpillars can balloon to previously uninfested trees and shrubs. I use to wonder how they ended up on gutters, wire fences, etc.

As the larvae feed and grow, they continue to enlarge the exterior of their bags with pieces of foliage, bits of bark, shed skins and excrement. The bags offer camouflage and even repel rain. Being hard to wet, the bags are highly impervious to pesticide sprays.

Feeding and growth usually continue until August, when the larvae are full grown and the bags are about 2 inches long. At this time, they stop feeding and loop strands of silk around a twig and become firmly attached to the branch.

After the top of the bag is closed, the larvae reverse their position in the bag so their head is facing downward. They then change into the pupal (resting) stage. The male moths emerge about four weeks after larval feeding has ceased. They fly around and find a female and mate while she is still in the bag. The female deposits a mass of eggs inside the bag.

Bagworms spend the winter in the egg stage, within the bag. Each female may lay several hundred eggs. Handpicking the bags during the fall, winter or early spring is effective, if done prior to mid-May. The male bags will be empty, as evidenced by the pupal emergence tube, at the bottom of the bag. There are a higher percentage of female bags in the higher branches.

Chemical Control:

Insecticides should be applied when the bagworms are small, but after all of them have hatched in late May to early June, but no later than mid-June. The larger the worms, the more difficult they are to kill. Complete coverage is essential.

If the caterpillars are allowed to grow over 1/4 inch long (less than a week old) the level of control will be much less. This is because insects have the ability to metabolize many pesticide compounds. Much of the ability is contained in what we call the fat body. The larger and older the insect, the larger the fat body means a greater ability to metabolize an insecticide.

It appears that Sevin is no longer effective. We suggest using the pyrethroids (Asana, Talstar, permethrin, Mavrik) or spinosad (SpinTor or Conserve SC). Spinosad should be a good choice to control the older, harder to control bagworms according to Dr. Frank Hale, but I have always had great reports from Asana. Asana is a restricted use pesticide.

Since a single bag could contain several hundred eggs, if you miss picking just a few, you could potentially have a damaging population emerge. Fortunately, one application of insecticide targeting these tiny first or second instar (stage) bagworm caterpillars by early June will usually take care of the problem for the rest of the year.

A non nursery person without an air blast sprayer explained how he dealt with bagworms on a row of large pine trees that he couldn't reach with spray. He scattered a \$5.00 bag of scratch feed on both sides of the pines. He had quite a few grackles and starlings for a couple of days but no more caterpillars. Inexpensive, easy, and environmentally sound.

Comm/Insects/Bagworms

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