Importance and Nature of Injury

Damage to plants is caused by the larva eating plant foliage. If not controlled while they are small, the maturing larvae can do considerable defoliation during the summer. Studies have shown that as few as four bagworm larvae feeding on the foliage of a 4-foot arborvitae in the summer can cause consumer sales rejections, even when bags are absent. Higher populations of bagworms can easily defoliate plants. This is particularly a problem on evergreens because the defoliation alters the shape and beauty of the plant. The plant will need to be replaced if damage is severe.

Life Cycle and Habits

Bagworms spend the winter as eggs inside the female's bag. Several hundred eggs ay be aid and overwinter in a bag. Since some bags contain only males, not all bags examined will contain eggs during the winter.

The eggs begin to hatch in late April to mid-May. Upon hatching, the young larvae crawl out of the bag and start to feed and construct silken shelters over their bodies. These young bagworm larvae are highly mobile in their search for food plants; walking or using wind currents to disperse. Their bag, at this time, consists of little more than spun silk and dust particles. As the larvae feed and grow, they continue to enlarge the exterior of their bags with pieces of twigs and foliage, bits of bark, shed skins and excrement. The bags offer camouflage and even repel rainwater. Being hard to wet, the bags are highly impervious to pesticide sprays, which seldom penetrate to reach the larvae.

Wikipedia Photo
Bagworm Moth

Feeding and growth usually continue until August, when the larvae are full grown and the bags are about 2 ½ inches long. At this time, they stop feeding and loop strands of silk around a twig and become firmly attached. After the top of the bag is closed, the larvae reverse their position in the bags so their heads are facing downward. They then change into the pupal (resting) stage. The male moths emerge about four weeks after larval feeding has ceased. The female never leaves the bag to mate. After mating, she deposits a mass of eggs inside the bag. The female, in most cases, then drops to the ground and dies. The eggs remain in the bag throughout the winter and into spring. There is only one generation of bagworms each year

Control Measures

Non-Chemical Control: one of the best ways to control bagworms it to handpick and destroy them in the fall, winter or before the eggs hatch in the spring. A through job must be done. On large trees, hand picking may be dangerous and impractical. A number of natural enemies feed on the larvae and eggs and apparently this explains why populations of bagworms fluctuate from year to year.

Chemical Control: Chemicals should be applied when the bagworms are small. The larger the worms, the more difficult they are to kill. Do not apply insecticides to plants not listed on the label. Because the rates of insecticides vary with plant species, check the label carefully to ensure the proper amount of insecticide is used. Recommended insecticides include carbaryl (Sevin, Carbaryl), *Bacillus thuringiensis* (Dipel, Javelin), malathion (Malathion), acephate (Orthene), trichlorfon (Dylox), bifenthrin (Talstar), cyfluthrin (Tempo, Decathion, Bayer Lawn & Garden Multi-Insect killer), Spinosad (Conserve SD, SpinTor), and lambda-cyhalothrin (Scimitar).

References: Kaufman, T. 1068. Observations of the Biology and Behavior of the Evergreen Bagworm Moth. Thyridopteryx ephemeraeformis (Lepidoptera: Psychidae). Ann. Entomol. Soc. Amer. 61 (1):38-44.

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