

Bagworms

During July and August, bagworms may seriously defoliate arborvitae, junipers and other trees and shrubs. Bagworms are caterpillars that live inside spindle-shaped bags which they construct to protect themselves against birds and other enemies. These bags, composed of silken threads and bits of foliage, look so much like a part of the tree that they may go unnoticed until extensive damage has occurred.

Bagworms are becoming a real problem in northern Indiana. Early in June, the insects hatch from eggs which wintered in the old bags attached to tree branches. As soon as the young worms appear, they start to spin bags and continue to enlarge these as they feed and grow. The caterpillars crawl part way out of the bags to feed. If disturbed, they retreat safely inside, and it is almost impossible to pull them out. Each female bag can produce over 1,000 bagworms. Bagworms mature in late August or early September. At this time the bags are about 2 inches long and can no longer be killed by pesticides. The worms then attach the bags firmly to branches or other objects and change into the adult stage. The wingless female never leaves the bag and is fertilized by the winged male. The eggs are laid in the bag where they pass the winter. There is only one generation each year.

LIFE HISTORY

Winter:	The eggs overwinter inside the bag made by the previous year's female.
Spring	Egg hatch occurs from late May to early June, at which time the larvae crawl out in search of food. Each constructs a small bag around its hind parts with silk and plant material. (This is the best time to spray for insect kill.)
Summer:	Feeding, growth, and molting continue until August, at which time the mature larvae attach themselves to twigs. They close the bag and reverse themselves so that they are head down in the bag. They remain there for about 4 weeks as pupae.
Fall	During September and early October, the female releases a sex attractant pheromone and the males leave their cases and fly to female bags to mate. Females lay 500-1000 eggs in each bag. There is one generation per year.

CONTROL MEASURES

The first control is to pick the bagworms off and drown them in a bucket of soapy water. This method is most effective before eggs hatch out of the bags in June. Bagworms can be controlled by spraying them with insecticides after eggs have hatched. For best results, use a biorational pesticide, such as *Bacillus thuringiensis* (Dipel). This will only kill caterpillars. In this way, the beneficial insects already on the plants can continue to feed on other pests and prevent them from causing problems. Biorational pesticides are most effective when directed against worms in bags that are still small. Two weeks after application look for live bagworms to determine if additional treatment is needed. As bags approach their full size (2 inches), pesticides become less effective.



Information taken from Purdue Cooperative Publication E-27, and Penn State Cooperative Extension, "Woody Ornamental IPM: Bagworm."

For more information, visit: www.hort.purdue.edu/ext/conhort.html