



GREEN TIPS

Department of Horticulture - Michigan State University

FALL WEBWORM MANAGEMENT

The fall webworm, *Hyphantria cunea* (Drury), is most often discovered when the unsightly, light gray, silken webs on the trees in late summer and early fall are observed. Webworms enclose leaves and small branches in their nests, unlike the tent caterpillars, which make a smaller nest in the crotch of branches. This pest is native to North America and is common from Canada into Mexico. It is one of the few American insect pests that has been introduced into Europe and Asia. It is common all across Michigan, though it seems to have major outbreaks every few years.

Plants Attacked

Fall webworm larvae have been known to feed on over 85 species of trees in the United States. Walnut, American elm, hickory, fruit trees (especially wild cherry) and some maples are preferred hosts in most of Michigan while willow, cottonwood, and alder are only occasionally attacked.

Damage

This pest usually eats leaves late in the season and the nests are generally concentrated to limited areas. Because of this, little real damage is done to most trees. However, the nests can look very unsightly and multiple generations in long summers can lead to significant defoliation.

Description and Life Cycle

The large silk webs enclosing tips of branches are sure signs of fall webworms. The caterpillars remain inside the webbing, and if food runs out, new foliage is encased. Two races of fall webworms occur in North America, the blackheaded and redheaded races. The blackheaded race has caterpillars that are light greenish-yellow to pale yellow with two rows of distinct black tubercles. The redheaded race is more tan in color with orange to reddish tubercles. The caterpillars make distinct jerking movements in unison if the nest is disturbed. The adults are about one inch long and range from pure white to white with a few black spots. The caterpillars are covered with long white to yellowish tan hairs. This pest overwinters in the pupal stage. Pupae are usually in the ground but can be located in old nest remains, under loose bark and in leaf litter. The adults emerge from late May into July. The eggs are usually deposited in a single (blackheaded race) or double (redheaded race) layer of several hundred eggs on the undersurface of leaves. The mass is lightly covered with scales from the female's abdomen. The eggs hatch in



about a week and the small mass of caterpillars web over single leaves and feed by skeletonizing. As the caterpillars grow, they web over additional leaves and finally are able to eat the entire leaf. The larvae mature in about six weeks, at which time they drop to the ground to pupate. The moths emerge over an extended period, and two generations can normally be completed in Michigan.

Control Strategies

Though the webs are very unsightly, damage to most trees is considered to be insignificant. This pest tends to go through periodic population explosions. Outbreaks every four to seven years may last for two to three years and then natural control agents greatly reduce the activity.

Strategy 1: Mechanical Control - Removal of Nests

Small nests can be pruned out of small to medium trees. Monitor trees early to detect the nests when only several leaves are involved. These small nests can be easily crushed. Do not burn or torch the nests in trees as this will do additional damage to the tree.

Strategy 2: Biological Control - Encourage Predators and Parasites

Over 80 species of parasites and predators have been identified in North America. Social wasps (yellow jackets and paper nest wasps), birds, predatory stink bugs and parasitic flies and wasps are the most important.



Delay destruction of wasp nests until August when social wasps change from carnivores to sugar feeders. Try to withhold contact insecticide sprays until it is certain that predators and parasites are not present in sufficient numbers to control the webworms.



Strategy 3: Biological Control - Apply Bacillus thuringiensis (Bt), var. kurstaki.

The bacterial insecticide, Bt, is quite effective against fall webworms if it is applied when the larvae are small. Use formulations with UV protectants and thoroughly cover leaves next to nests. As these leaves are incorporated into the nest and eaten, the Bt will be ingested.



Strategy 4: Chemical Control - Standard Insecticide Sprays

Most applicators attempt to "blow" the nest out of the tree with a strong jet of insecticide mix. While this generally works, more material is often used than is needed. Locate nests early and merely wet the nest and cover nearby foliage. As the larvae walk on the nest surface or incorporate new foliage, they will contact the insecticide. Second applications may be needed if additional generations occur.

Strategy 5: Chemical Control - Use Systemic Insecticides

Extensive nests may occur in tall trees which are difficult to spray with ground equipment. These trees can often be treated with translocated systemics applied to the soil for root uptake or injected.

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Issued in furtherance of Cooperative Extension work in agriculture and home economics, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Arlen Leholm, Director, Michigan State University Extension, E. Lansing, MI 48824

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GT1056 - March, 1998