



Cottony Maple Scale

The cottony maple scale is a highly modified insect pest that commonly attacks silver and red maples in Ohio. The scales, are usually first noticed when the females produce an egg sac which appears as a ¼ to ½ inch long ball of cotton. Heavy infestations can result in branches being turned completely white with the egg sacs. Like most scale insects, the nearly mature insects, the adults and the eggs are resistant to pesticides and the anxious tree owner must wait until the correct time for management.



Plants Attacked

Cottony maple scales reach epidemic numbers' on silver maple but noticeable populations can occur on red maple. It is also known to be able to survive on other species of maple, honey and black locust, white ash, euonymus, oak, box elder, dogwood, hackberry, sycamore, beech, elm, willow, basswood, and poplar.

Damage

Normally, this scale is a mere curiosity and nuisance. The white egg sacs easily attract attention and the developing scales produce honeydew. Honeydew is the excess water and sugar excreted by many plant sap-feeding insects. Honeydew is commonly mistaken for "plant sap" being dropped on cars, sidewalks and lawn furniture lying under trees. When honeydew collects on leaves and branches, bees, wasps and ants are attracted to the area. If the honeydew is allowed to remain, molds called "sooty fungus" grow on the material, turning the surface a gray-black color.

Occasionally, heavy outbreaks of this scale occur, usually on weakened or stressed trees. These outbreaks can cause the death of numerous small branches and occasionally the death of a tree.

Description and Life Cycle

Mature cottony maple scales are small, flat, oval, brown insects without obvious legs, antennae or wings. They are firmly attached to the twigs and branches of various trees and may be 1/4 to 3/8 inch in diameter. At maturity, the females produce the white, cottony egg masses (called ovisacs) over a period of several weeks. The "cotton" is really waxy threads and the ovisacs may contain over 1,500 eggs. These eggs hatch from mid-June to August and the young nymphs are called scale crawlers. These microscopic crawlers are small, flat, oval insects with two distinct eyes, short antennae and tiny legs. The crawlers walk onto the leaves and tend to attach alongside the major leaf veins, usually on the underside. Here, the nymphs produce copious amounts of honeydew and grow by molting once. By this time the scales look like two different kinds, translucent white to pink for and a larger, flat, tan form. These are males and female scales, respectively. In September, the male scales emerge as tiny winged gnat-like insects that move around on the leaves in search of females. After mating, the males die and the females soon withdraw their mouthparts and crawl back onto small twigs and branches. Here, the reinsert their mouthparts and settle down for the remainder of their life. These females first appear greenish with a white powdery coating and they are about 1/8-inch long. By winter, they have turned buff in color and in the following spring and early summer they turn a chestnut-brown. When the sap begins to flow in the spring, the females continue to grow and they again produce considerable amounts of honeydew. By late May to early June the females have matured and they begin to produce their ovisacs.

Control Hints

This pest has numerous parasites and predators that normally keep its populations in check. However, every few years, these natural controls seem to fail and the cottony maple can reach epidemic proportions. Unfortunately, weak trees can be severely damaged during these outbreak years. Healthy trees often lose a few small branches and have no apparent long term problems.

Strategy 1: Cultural and Biological Control – Silver maples in restricted street lawns or suffering other stresses from drought, compacted soils, poor fertilization, etc. are the ones most likely to exhibit major branch or crown dieback. Improving the tree growing conditions will significantly help the trees survive the cottony maple scale attacks until the natural predators and parasites build up to effective levels.

Strategy 2: Use “Soft” Pesticides – Soaps and horticultural oils can be very effective in managing the freshly settled crawlers. Insecticidal soaps or horticultural oil must be applied thoroughly to the leaves, both to the underside and upper surfaces, in order to kill the scales. Soaps and oils only kill the pests on contact.

Strategy 3: Standard Insecticide Applications – Several insecticides are registered for control of scale crawlers and newly settled crawlers. These pesticides, again, often need to be applied in sufficient spray quantity to wet both the leaf upper and lower surfaces.

Strategy 4: Dormant Oils Sprays - Dormant oil sprays have been traditionally used to manage many scales on ornamental trees.

Information obtained through the Ohio State Extension Factsheet HYG-20 19-95



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