

COTTONY MAPLE SCALE

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A mature female cottony maple scale is 1/8" long, and has a brown, flat, oval body. Infestations are most easily noticed during the summer when females produce white, cottony egg sacs that resemble pieces of popcorn on a twigs. These scales also produce large amounts of liquid waste (honeydew) so leaves may be shiny and sticky and black sooty mold fungus may cover branches and the trunk.

Cottony maple scales commonly infest silver maple but can feed on several species including other maples, boxelder, basswood, birch, elm, and linden. They spend the winter in an immature stage on twigs or branches and complete development in June when the egg sacs appear.

Eggs hatch during June and July and crawlers move to the lower surface of leaves where they settle feed on sap for the rest of the summer. Just before leaf drop, the small insects will move back to twigs and branches to spend the winter. There is one generation each year.

Scale control can be challenging and may need to be repeated over several seasons. This is due in part to the protection from contact insecticides provided by the waxy coverings over immobile, mature scales. Proper timing of insecticide applications is a major key to success. Applications must target newly hatched scale crawlers which are active in June and July. Crawlers are very susceptible to control measures as they move over plant surfaces to find a feeding spot. Once settled on the plant, they begin to secrete a covering and are protected by it.

Alternatives for crawler control

- Cultural control

Scales then to thrive on stressed plants. Follow a recommended fertility program and watering regime to promote plant health. If practical, improve plant sites to reduce stress and promote growth. Prune out heavily infested branches, if possible.

- Insecticidal Sprays

Horticultural oils kill by suffocation or after penetrating over-wintering stages of the insect. Dormant oils are typically applied during February or March. Highly refined supreme, superior, or summer oils can be used on many trees and shrubs during the growing season. Read the product label for guidelines on plant sensitivity and temperature restriction before buying and using these products.

Insecticidal soaps are long chain fatty acids that kill susceptible insects through direct contact. Like horticultural oils, they require thorough coverage. Soaps leave no residue so repeated applications may be needed for some pests. These products may burn the foliage of sensitive plants, such as Japanese maple, so check the label for information about the plant species that you intend to treat.

A variety of natural and synthetic insecticides are labeled for use as sprays to control scale crawlers on landscape trees and shrubs. While the residual life of these products is generally longer than oils and soaps, timing, coverage, and precautions on damage to some plant species are very similar to those for oils and soaps. Systemic insecticides

Imidacloprid (Bayer Advanced Garden Tree & Shrub Insect Control Concentrate) is applied as a drench around the root zone of infested plants. This water soluble insecticide is taken up by the roots and transported throughout the plant where it is ingested by sap feeding insects. This provides a means of scale control without reliance on sprays. This product may need to be applied in early spring to control crawlers.

Representative products for scale crawler control.

Insecticide common name*	Representative brand names
Acephate	Orthene Turf, Tree & Ornamental Spray Ortho Systemic Insect Killer
Azadiractin	Bon-Neem Gordon's Garden Guard Liquid Insecticide
Carbaryl	Sevin
Cyfluthrin	Bayer Advanced Garden Multi-Insect Killer Concentrate
Lambda-cyhalothrin	Spectracide7 Triazicide7 Soil & Turf Insect Killer Concentrate
Dimethoate	Dragon Cygon 2E Systemic Insecticide
Esfenvalerate	Ortho Bug-B-Gon Garden & Landscape Insect Killer Concentrate
Malathion	Ortho Mosquito-B-Gon Tree & Shrub Spray Bonide Malathion Insect Control
Permethrin	Ortho Mosquito-B-Gon Tree, Shrub & Lawn Spray Spectracide7 Bug Stop7 Multi-Purpose Insect Control Concentrate Bonide Borer-Miner Killer

*All insecticides have unique common names that can be found on just below the brand name on the product label. You may be able to find other brand name products for scale control that contain these active ingredients. Be sure that the product you select is labeled for the plants that you intend to spray.

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Natural Enemies

Scale insects can be attacked by a variety of lady beetles, predatory mites, and small parasitic wasps. Lady beetle adults and larvae can be seen but mites and parasitic wasps are very difficult to see. You can conserve natural enemies by using insecticidal soaps and oils which have limited impact on beneficial species in comparison to other control alternatives.

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Evaluating Control

The success or failure of control efforts may not be readily apparent but here are some things to check.

- Dead soft scales often fall off of the plant. Live scales should produce a liquid when mashed, dead scales will be dry and not "bleed" when crushed.
- New foliage of infested plants should have a healthier appearance once the scale burden has been removed. Buds should break a little earlier than when the plant was infested and expanded leaves should have normal color and turgor.
- Sooty mold and shiny leaves should gradually disappear from plants that were infested with soft scales.