

EUONYMUS SCALE

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Female Euonymus scale females (about 1/16" long) have dark brown to gray, somewhat pear-shaped bodies. The white coverings of males are distinctly smaller and narrower. When abundant, these armored scales can completely encrust twigs and leaves of Euonymus, pachysandra and bitterweet. They use their piercing-sucking mouthparts to feed on sap. Moderately to heavily infested plants grow very slowly, if at all, and yellow spots may appear on the foliage. Heavy infestations can cause branch dieback and may even kill some plants.

Fertilized females pass the winter with their eggs hatching over a two-week period from late April to early May in central Kentucky. The tiny crawlers can be active into late May and are adults four- to six-weeks later. Crawlers that hatch from these eggs are active from late July into early September.

Scale control can be challenging and may need to be repeated over several seasons. Proper timing of insecticide applications is a major key to success. Applications must target newly hatched scale crawlers which are active in May and again in June and July. They are very susceptible to control measures while moving over plant surfaces to find a feeding spot. Once settled, they begin to secrete a waxy covering that shields them from sprays.

Alternatives for crawler control

- Cultural control

Scales tend to thrive on stressed plants. Following a recommended fertility program and watering regime will promote plant health. However, over-fertilization favors scale buildup. If practical, improve plant sites to reduce stress and promote growth. Severely prune back heavily infested branches and protect new growth with insecticide applications.

- Insecticidal Sprays

Horticultural oils kill by suffocation or after penetrating over-wintering stages of the insect. Consequently, they may not be effective where several layers of scale coverings have accumulated.

Dormant oils are typically applied during February or March but may not be very effective against armored

scales. 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. However, it may need to be applied several weeks before crawlers are active for best results.

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	Spectracide® Triazicide® Soil & Turf Insect Killer
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 Spectracide® Bug Stop® 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.

Evaluating Control

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

- Live scales should produce a liquid when mashed, dead scales will be dry and not “bleed” when crushed.
- New foliage 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.

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.