

JUNIPER SCALE

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The female Juniper scale shell is a circular, flat, armored scale that attacks several species including junipers, cypress and eastern red cedar. They use their piercing-sucking mouthparts to feed on sap. The waxy covering of the female is dirty white with a yellow center, resembling a tiny fried egg. The male shell is smaller and narrower. Infested juniper foliage looks dingy and unhealthy.

Juniper scales pass the winter as fertilized females. Each produces about 40 eggs that hatch over about a 10 to 14-day period in about mid-May in central Kentucky. There is one generation each year.

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 mid-May. 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.

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 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 Spectracide® Bug Stop® Multi-Purpose Insect Control Concentrate Bonide Borer-Miner Killer |

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 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.

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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