What is Pine Needle Scale?

Pine needle scale, *chionaspis pinifolia*, is a small armored scale that feeds on the sugars contained in the needles of pines, spruce, and fir. The insect attaches itself to the needle and produces a hard waxy shell to protect itself from predators and environmental conditions. Visible to the naked eye when covered with the shell, pine needle scales appear as oyster shell-shaped, white blisters on the needles of conifers, often so numerous they envelop the entire needle. They are a serious pest that causes disfiguration and often death of the infested needles as well as general decline of the whole tree.

Biology

Pine needle scales produce two generations each year. Eggs hatch in late May through early June, and again in late July through August; emerging over a two week period. Crawlers move to mature needles and begin feeding, forming new armor. In three to five weeks adults emerge; males as winged adults and females as wingless. Once mating is complete, females grow for two more weeks and lay eggs underneath their armor. Eggs overwinter under the armor and emerge the following year to begin feeding.

Susceptible Trees

Pines, especially Mugo and Scots pine, fir, spruce, and douglas fir.

Signs and Symptoms

- Presence of numerous, oval shaped white insects on needles, appearing like white paint flecks.
- Heavily infested trees can appear silvery from a distance.
- Sickly, yellow appearing needles.
- Thin or weak appearing canopies as infested needles are shed.
Pine Needle Scale Treatment Strategies

Treatment Strategy

Treatment of pine needle scale has become much easier and more effective with the advent of soil applied systemics.

In the past, armored scales were very difficult to treat; their hard shell protects them from foliar sprays. Multiple sprays were required during a relatively narrow window of the crawler stage to get good control. In the past few years, new developments in technology have created soil applied systemic insecticides, such as Transect™. Transect™ works from the inside of the plant right where these insects feed, reducing the difficulty of application timing and providing better results. It is important to note that some systemic insecticides DO NOT work on most armored scales, only those that are very mobile in the plant will be found in the area that armored scales feed. Transect™ is best applied in the late spring, May through June, when crawlers are emerging; to provide control of both generations. For best results, Transect™ should be applied annually.

Although most professionals have moved away from sprayed insecticides when possible, Carbaryl 4L can be effective in controlling pine needle scale. Sprayed treatments for pine needle scale need to be done twice per year to coincide with the multiple generations. The first spray occurring in early summer, late May-June and the second in late summer, mid-July into August.

DIY Shopping List

Option 1: Application Type – Soil drench, Soil injection

DIY Product/Equipment Needed

- Transect™ or Xytect™
- Measuring or diameter tape
- Gloves
- Soil Drench: Bucket or watering can
- Soil Injection: HTI Soil Injection Kit

Option 2: Application Type – Foliar spray

DIY Product/Equipment Needed

- Carbaryl 4L
- Hand pump sprayer with wand
- Gloves/Safety glasses

Photo, above: Severe infestations can cause die back, and sparse looking foliage. (John A. Weidhass, Virginia Polytechnic Institute and State University, Bugwood.org) Transect™ is a soil applied product that is very fast moving, getting into your tree in less than two weeks. One canister treats 100 inches of diameter for pine needle scale.