

# Forest Pest Bulletin



DEPARTMENT OF AGRICULTURE  
AND NATURAL RESOURCES  
DIVISION OF RESOURCE  
CONSERVATION & FORESTRY

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## PINE NEEDLE SCALE

### CAUSAL AGENT

*Chionaspis pinifoliae*

### HOSTS

The Pine needle scale prefers to feed on Pine (*Pinus*), specifically Scotch (*Pinus sylvestris*) and Mugo (*Pinus mugo*) but can also be found on Spruce (*Picea*) and Firs (*Abies*). It is considered one of the most serious pests of ornamental trees in the United States. Ornamental nurseries, Christmas tree plantations, ornamental plantings, and trees planted along dusty roads are more likely to be attacked than forest trees.

### SYMPTOMS

Pine needle scale infestation first can be identified by waxy, white specks on needles. As the scales continue to feed, the needles turn yellow and brown as the needles die prematurely. As infestation increases on the tree, branches can be killed as well as the entire tree depending on the number of scales and how long they have been present on the tree. Heavy infestations can give the tree a frosty appearance (Fig. 1). Shorter needles can also be used to identify an infestation.



Figure 1. Scale infestation.  
Scott Tunnock, USDA Forest Service,  
[www.forestryimages.org](http://www.forestryimages.org)

### LIFE CYCLE

There is one generation of Pine needle scales each year. Red eggs (Fig. 2) overwinter under the protective adult scale and hatch in early June. The “crawlers”, or newly hatched scales, appear as red ovals. Once the crawlers find suitable feeding sites, they begin to feed and change; they flatten out and turn a light brown color. In about two weeks, the crawlers molt. The males grow wings and begin to mate in late July. After mating, the males die, and the females grow a white, scale covering and begin laying eggs. As egg laying continues, the

females shrink and die, and 30-50 eggs are left under the hard, scale covering to over-winter.

### MANAGEMENT

Ladybird beetles, wasps, and weather conditions often naturally control scales. Depending on the severity of infestation, the branches can be pruned and destroyed. If populations and infestations are high, insecticides may be needed to prevent damage and death to trees.

Treat trees with 2% horticultural oil or insecticidal soap in late May and again in mid-July. Check the label prior to spraying as these can change the color of spruce and oils can be harmful to trees at high temperatures. The use of conventional insecticides such as Sevin may increase populations of scale as these applications may kill more of their natural enemies rather than the scale itself.



Figure 2. Red eggs under scale covering.

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Due to numerous pesticide labels and/or label changes, be sure the product label includes the intended use prior to purchase or use. Please read and follow all pesticide label instructions and wear the protective equipment required. Spraying pesticides overhead increases the risk of exposure to the applicator and increases the likelihood of drift to non-target areas. Consider the use of a commercial applicator when spraying large trees due to the added risk of exposure and equipment needs. The mention of a specific product name does not constitute endorsement of that product by the South Dakota Department of Agriculture and Natural Resources.

For further information contact your nearest South Dakota Division of Resource Conservation and Forestry office. Hot Springs 605-745-5820; Lead 605-584-2300; Mitchell 605-995-8189; Pierre 605-773-3623; Rapid City 605-394-2395; Sioux Falls 605-362-2830; Watertown 605-882-5367.

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