

Forest Pest Bulletin



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

BULLETIN NUMBER 41

Revised: June 2021

OYSTERSHELL SCALE

CAUSAL AGENT

Lepidosaphes ulmi

HOSTS

Ash (*Fraxinus*), Cotoneaster (*Rosaceae*), Dogwood (*Cornus*), Lilac (*Syringa*), Poplar (*Populus*), Green ash (*Fraxinus pennsylvanica*) and Willow (*Salix*) are hosts, although it is a common insect pest of many plants.

SYMPTOMS

As the scales suck sap from the tree, the bark cracks and the leaves of the tree show significant change. The leaves often fade from green to yellow, and then to brown, signifying death. Infestations weaken trees, leaving them susceptible to other pests and diseases. Branch death and bark damage are the identifying factors in an Oystershell scale infestation. The scales themselves are about 1/8-inch-long, brown, and shaped like an actual oyster shell (Fig. 1).

LIFE CYCLE

The Oystershell scales overwinter in the egg stage of their life. The eggs are protected by a shell left over from a dead mother scale. In late May or early June, the eggs hatch and the crawlers emerge. The crawlers are mobile for a couple of hours while looking for a suitable feeding location (Fig. 2). Once they find a suitable area for feeding, the crawler scales insert their tiny mouthparts in the bark of the tree and begin feeding. After the feeding stage begins, the crawler begins to molt and secrete a waxy covering. After about a week, the covering is finished, and the crawler will stay in this location for the rest of its life. The females remain immobile, but the males grow wings to fly to mates. After mating, the female lays eggs underneath herself and her protective covering, where the eggs will overwinter. There is only one generation of the Oystershell scale per year.



Figure 1. Oystershell scale infestation on quaking aspen.

William M. Ciesla, Forest Health Management International,
www.forestryimages.org

MANAGEMENT

Prevention is the best weapon against scales. When planting new trees, carefully inspect the branches to make sure this pest isn't inadvertently being introduced into the area. In low scale populations, biological controls keep infestations in check. Natural predators such as beetles and birds feed on the immobile scales because they are such easy targets.

If scales are concentrated to single branches, those branches can be pruned. Scales and eggs should die within a few weeks but pruned branches should still be disposed of in an area where they won't infest any new trees.

A horticultural oil application before bud break in the spring can reduce the number of crawlers that hatch.

When Oystershell scales are in the crawler stage they are susceptible to insecticides. The plants need to be monitored weekly to time spraying accurately. Close inspection with a magnifying glass can reveal tiny yellow crawlers. Double-sided sticky tape around a branch can also catch crawlers for inspection but needs to be replaced as it becomes dusty. When crawlers are detected, Acephate can be sprayed on trees. However, this will kill beneficial insects as well.

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.

The South Dakota Resource Conservation and Forestry Division is an equal opportunity service provider. Services are provided to all persons without regard to race, color, religion, gender, age, disability, national origin, or political beliefs. To file a complaint of discrimination, contact the Director, South Dakota Human Rights Division, 118 West Capitol Ave, Pierre, South Dakota 57501 or call (605)773-4493 (voice or TDD). The division is a recipient of Federal funds.



Figure 2. Oystershell scales and crawlers. Whitney Cranshaw, Colorado State University, www.forestryimages.org