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COLORADO STATE UNIVERSITY COOPERATIVE EXTENSION

Oystershell scale:
characteristics and control on ornamental trees and shrubs

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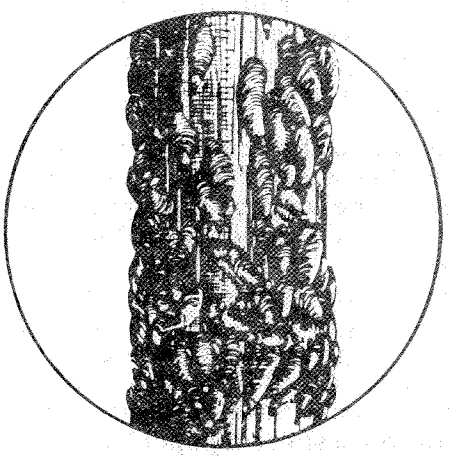
Quick Facts

- Oystershell scale is a very common insect pest of many woody plants in Colorado.
- Oystershell scale feed on the plant by sucking plant sap; heavy infestations can kill branches and even cause the decline and death of the tree.
- In most areas of Colorado there is only one generation of oystershell scale per year.
- Oystershell scale overwinters in the egg stage.
- The egg hatches in the spring and the newly emerged insect quickly attaches itself to the plant.
- Oystershell scale can be controlled in the winter by using a dormant oil.
- To control it in the summer, an insecticide must be applied within 10 days following egg hatch.



Oystershell scale

More than 50 plant species in Colorado are attacked by the oystershell scale. Of these, ash, cotoneaster, dogwood, lilac, poplar and willow are most commonly infested.

Oystershell scales attach themselves to the bark of twigs and branches. They feed on the plant by sucking out plant sap and can weaken and even kill the plant when the infestations are abundant.

Description and Life Cycle

The most familiar stage of the oystershell scale is the covering of the full-grown female scale which overwinters attached to the bark. The old mother scale is about ⅛-inch long, brown or gray in color, slightly banded, and the general shape of an oyster shell. The overall appearance of the scale often is very similar to that of the underlying bark and these insects are easily overlooked. Old scales can stay attached to the tree for several years before falling off.

The oystershell scale only overwinters in Colorado in the egg stage. Eggs are underneath the old scale covering of the mother. At lower elevations, eggs typically hatch in late May or early June. At higher elevations egg hatch may be delayed into mid-June. Eggs from all the scale insects do not hatch at the same time and egg hatch may extend over a couple of weeks. Eggs of oystershell scale with two generations per year are reported to hatch earlier than one generation scales.

The newly hatched scale insects are called "crawlers." The crawlers are pale in color, smaller than a pinhead in size. The crawler stage is the only mobile stage in the life history of the oyster shell scale. After a few hours, the crawlers find a suitable location, usually on a shaded area of the tree. They insert their mouthparts into the plant, begin to feed and soon molt. They remain in this location for the rest of their lives. Within a week they are covered with a waxy scale covering that provides protection from most insecticides.

In most areas of the state there is only one generation of the insect per year. In some areas, however, races of the oystershell scale exist which have a second generation with egg hatch in July and August.

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Control

Oystershell scale can be particularly difficult to control because they are protected with a waxy covering for most of their life. One popular control approach is the use of dormant oils.

Several brands of dormant oil are available. These are typically used at rates of 2 gallons oil per 100 gallons of water. Treatment is recommended late in spring on warm days before bud break. Effective use of dormant oils requires thorough coverage of infested trunks and branches. Where heavy crusts of scales exist control will be reduced.

After leaves have emerged, oystershell scale is vulnerable to control only during the crawler stage. After the waxy covering has been produced by the insect it is not susceptible to control with insecticides.

Determination of when the crawler stage is occurring requires a careful examination of the plant for the presence of the crawlers. Weekly examinations should begin around mid-May, depending on location in the state. Dislodging the crawlers onto a sheet of paper by shaking infested plants may aid in observing the crawlers. Use of a magnifying glass also can help with crawler detection.

As soon as eggs have hatched use one of the following insecticides, applied to the bark of the tree:

acephate (Orthene)	diazinon
carbaryl (Sevin)	malathion
chlorpyrifos (Dursban)	methoxychlor

Orthene should not be used on certain plants, such as aspen, cottonwood, and flowering crabapple or plant injury may result.

Highly refined summer or superior oils also may be used safely on most trees for crawler control and have given control comparable to standard insecticides. Summer oil sprays should be used at lower concentrations (1-1½ gallons of oil per 100 gallons of water) than dormant oils. Make sure that the oil is of sufficient purity that its label instructions permit use on plants with leaves. Always read and follow label instructions for directions on mixing, usage and application safety.

Where very heavy infestations exist, pruning should be considered. Removal of pruned wood a few dozen feet away from susceptible trees should be sufficient to prevent reinfestation.

Overwintering scales can also be scrubbed off of small trees and shrubs with a plastic scrub pad. Avoid overly vigorous scrubbing, which can damage wood.