



SCALES

Importance. - Many different types of scales effect hardwoods and conifers throughout the United States. A large scale population can reduce growth, weaken the tree, and cause branch or crown dieback. Scales are usually of greatest concern in nursery stock, seed orchards, and shade and ornamental trees. Honeydew and sooty mold, associated with scales, usually mar the beauty of ornamentals.

Identifying the Insect. - Scale insects vary in shape and form. There are softbodied, hard-bodied or armored scales. They may resemble a small turtle or oyster shell or even part of the bark of the tree. Some scales are white and very obvious; others are dull and perfectly match their host's color. Therefore, close examination is very important. They can range from 1/50 to 1/10 inch (1/2 to 7 mm) in length. Scale insects can be found on any part of a tree.



Pine tortoise shell scale (soft).



Pine needle scale (armored).

Identifying the Injury. - Trees with poor vigor or with branch and crown dieback should be examined closely for scales. Scale feeding may cause some abnormal plant growth at the point of attack, such as stunting of leaf or shoot growth, leaves turning yellow or red, and branch gouting. Other symptoms to look for are early leaf drop or dieback or "flagging" of newly formed terminals, branch ends, and new leaves. Ringlike swellings or pits in the bark cause a rough appearance of branches. Heavy infestations will kill trees. Sooty mold and ants frequenting a tree are good indicators of scale infestations.

Biology. - Eggs are usually produced underneath the female scale in the spring. The eggs hatch, and the nymphs seek feeding sites. Some nymphs migrate to different sites to overwinter; others spend their complete life in one place. Some scales have only one generation per year; others have numerous generations.

Control. - Parasites and predators are effective in controlling infestations. However, insecticides are often used to protect high value trees and are most effective against immature scales.
