

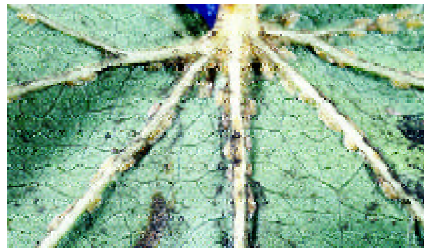
Fact Sheet



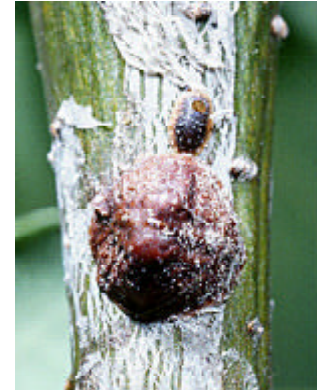
Lecanium Scales in Ohio Landscapes



European fruit lecanium females beginning to produce eggs.



Lecanium scale nymphs settled along leaf veins.



Lecanium scale mature female and nymph that had been parasitized by a wasp.

Species: Originally, nearly all of these soft scales were included in one genus, *Lecanium*. Over time, this large genus has been divided into several genera. The most common *Lecanium*-like scales in Ohio landscapes are: *Eulecanium cerasorum* (Cockerell) - calico scale; *E. caryae* - large hickory lecanium; *Mesolecanium nigrofasciatum* (Pergande) - terrapin scale; *Neolecanium cornuparvum* (Thro) - magnolia scale; *Parthenolecanium corni* (Bouche) - European fruit lecanium, oak lecanium and Putnam scale; *P. fletcheri* (Cockerell) - Fletcher scale; *P. persicae* (Fabricius) - European peach scale; *Sphaerolecanium prunastri* (Boyer de Fonscolombe) - frosted scale. The calico, Fletcher and magnolia scales are covered in other fact sheets.

Most of the *Parthenolecanium* scales can vary considerably in color markings which has led to many incorrect species descriptions. If species determination is essential, an expert scale taxonomist will be needed.

Distribution:

The European fruit lecanium, European peach scale, and Fletcher scale appear to be world wide in distribution. The rest are more restricted to North America.

Hosts:

The European fruit lecanium, European peach scale, frosted scale, and terrapin scales are polyphagous, being found on many deciduous ornamental trees and shrubs. Maple, oak, birch, elm and flowering fruit trees are very commonly infested.

Damage:

These soft scales are copious honeydew producers and their sticky excrement commonly coats automobiles, sidewalks, and park benches located under the branches of infested trees. When parasitic wasps and predators are in short supply, these scales can completely incrust branches, thereby causing stunting and eventual death. This is most common on flowering fruit trees.

Normally, the honeydew production and attraction of bees, wasps and ants to the sugary excretion causes more concern than the actual damage done to the host plant.

Description and Life Cycle:

Most lecanium scales are oval to football shaped with a characteristic cleft located on the caudal end.

They can be variously colored, but are usually greenish-tan to chestnut-brown. When the females begin to lay eggs, the body becomes more rounded and dome-shaped.

The hickory lecanium, European fruit lecanium, and European peach scales are mainly parthenogenic (males are not needed) though males may be occasionally produced. The terrapin scale produces many males and females give live birth to the crawlers. Most of the rest lay eggs under the protection of the female scales' bodies.

Most of these soft scales overwinter as partially mature females that are attached to stems and branches of host plants. In the spring, the females complete development and begin to lay eggs. These scales commonly produce 300 to 500 offspring. By mid-May to mid-June, crawlers hatch and seek out suitable places to settle. The scale crawlers settle on the undersides of leaves, undergoing two instars before moving back onto more permanent structures of the host plant. By the fall, the adult females that have moved back to the branches mate and overwinter.

Control Hints:

Many entomologists suggest that pesticide treatments be avoided unless absolutely necessary, in order to allow for the build up of predators and parasites.

Option 1: Biological Control - Predators and Parasites - Several lady beetle larvae specialize in feeding on scales, but tiny parasitic wasps are the most

effective at control of these soft scales. Evidence of their attack will be seen as tiny, perfectly round holes in the bodies of old scales. General insecticide "cover sprays" should be avoided (spraying everything in the landscape with a broad spectrum insecticide) in order to conserve these predators and parasites.

Option 2: Chemical Control - Insecticidal Soaps or Oils - Insecticidal soaps and oils are fairly effective against the crawlers and recently settled crawlers. Thorough coverage of leaf undersurfaces, after the crawlers have settled, is essential for success.

Option 3: Chemical Control - Dormant Oils - Since these scales generally overwinter as females attached to branches, true dormant oils (heavier weight oils or horticultural oils used at higher rates - 4 to 6%) can be applied in early spring to kill them before they finish their development.

Option 4: Chemical Control - Contact Insecticides - Traditional contact insecticides are generally ineffective if applied when the overwintered females have started to lay eggs (domed up in the spring). Since this is the same time that honeydew production is at its maximum, people often want something to be done. Wait until the crawlers have emerged and settled before making the application.

Option 5: Chemical Control - Systemic Insecticides - A few insecticides that claim scale control and systemic action can be very effective for control of these pests. Best control is obtained against the developing nymphs in June through early August.

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NOTE: Disclaimer - This publication may contain pesticide recommendations that are subject to change at any time. These recommendations are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. Due to constantly changing labels and product registrations, some of the recommendations given in this writing may no longer be legal by the time you read them. If any information in these recommendations disagrees with the label, the recommendation must be disregarded. No endorsement is intended for products mentioned, nor is criticism meant for products not mentioned. The author and Ohio State University Extension assume no liability resulting from the use of these recommendations.

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