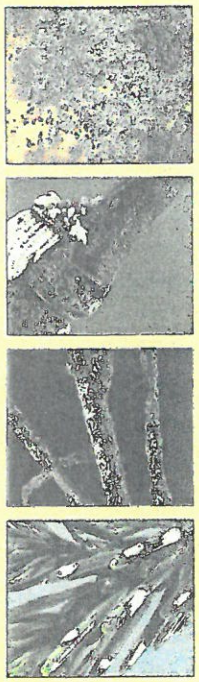
Common Scale Insects



TYPE	FEMALE TRAITS	PREFERENCES
San José Scale *(left)*	Grey, with yellow bump; round; 1.5 mm; thrives in moist climates	Can kill fruit trees; attacks more than 50 ornamentals, including Maples
Black Scale	Black, dome-shaped, often with ridges; 6.5 mm; prefers mild climates	Citrus, Apple, Fig, Grape, Oleander, Olive, Plum and Rose
Cottony Cushion Scale *(left)*	Reddish brown shell; white egg masses; 7 mm; thrives in moist climates	Citrus, Mulberry, Apple, Pepper, Potato, Rose, Sunflower and Maple
Oleander Scale	Pale yellow, with brown central bump; 3 mm; prefers mild climates	Worst on Oleander and Ivy, also feeds on Rose, Citrus and Azalea
White Louse Scale *(left)*	White or brown scaley coatings; 1 cm; thrives in many climates	All varieties of citrus
Rose Scale	White, flat shell; 1 cm, insect is orange or pink, thrives in moist climates	Roses, especially Climbers and Hybrid Teas; also bramble fruits
Pine needle Scale *(left)*	White; wider at one end; females 7 mm; thrives in moist climates	Common on almost all Pine species and on various Spruces

Seasonal Tips

EARLY SPRING

Identifying

Inspect plants carefully for scale insects. Ask for help at nurseries or garden centres in identifying species and learning correct spray time(s). Plant flowering plants to attract predatory insects.

SUMMER

Cleaning Up

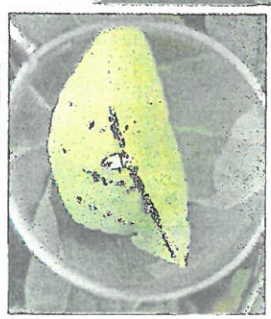
Wash off honeydew and sooty mould. If summer spray is advised, find out when young scales should hatch and use a magnifying lens to check for active crawlers *(right)*, which are typically yellow or orange.

WINTER

Controlling

White oils, sprayed in the winter, are the best way to control many kinds of scales. Identify scale and ensure that individual sprays are effective in controlling it before spraying. Also, check that spray does not harm scales' natural predators.

A Guide to Dealing with Scale Insects



Horticultural oil sprays control most scale insects and do not kill their natural enemies.

Saving Plants From Scales

Finding and identifying these camouflaged pests is half the battle.

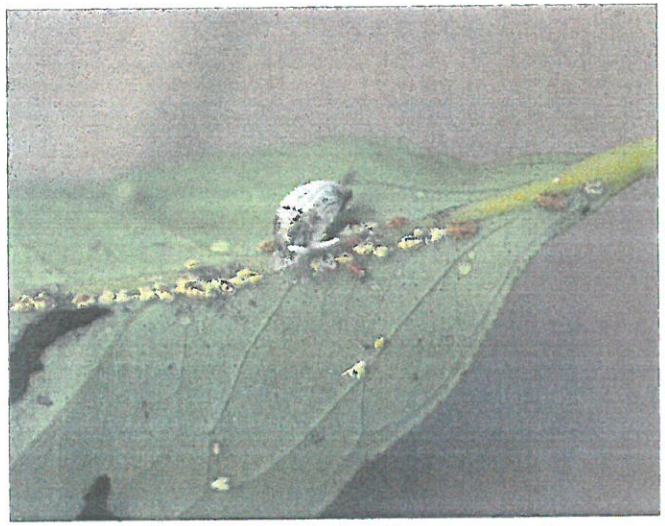
WHAT ARE SCALES?

Scales include many species of insects that suck sap from garden plants, mainly woody ornamentals and fruit trees. Unlike most insects, scales are immobile except when they are very young.

Mature scales are coated with a waxy shell that can be brown, grey, white, reddish, yellow, purplish or almost black. They are typically round, oval or elongated in shape, from the size of a pin-head to 1 cm in diameter. They may be flat or dome-shaped.

HOW TO DETECT

Scales attach themselves to leaf stems, young branches, leaves and fruit. Leaves turn yellow, then brown, and whole branches or plants may die. Leaves may be coated with sticky honeydew, which is partially digested plant sap. The honeydew may attract ants, and sooty mould (a black fungus) may grow on it.



Scales often cluster along midribs of leaves or on twigs

Scale eggs remain under the mother until they hatch. Young scale nymphs, called crawlers, move about, feed, and may be carried to new plants by birds or the wind.

Male scales feed, develop wings, mate and die. Females settle into a spot to feed and reproduce. Scales overwinter on plants as adults, nymphs or eggs.

HOW TO CONTROL

Avoid overfertilising, under-watering or overwatering, all of which make plants more susceptible to scales.

Encourage natural enemies, which include wasps, certain lady beetles and lacewings. Avoid the use of long-lasting, broad-spectrum pesticides for scales or other pests because such chemicals will kill natural enemies of scales as well.

Except during the short-lived crawler stages, scales are protected from most pesticides by their shells.

White oils and clear, miscible oils kill many kinds of scales, including some kinds of adult scales, with less injury to scales' natural predators, such as Ladybirds.

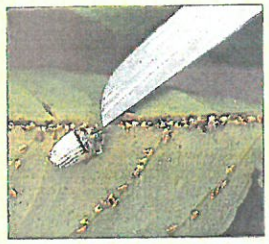
Lace wing, a beneficial insect

Caution!

Before you use white oil, be sure plant is listed on the label, or test oil on a leaf and observe for 48 hours. Do not spray drought-stressed plants or use oil on days with temperatures over 30°C or during very cold weather.

FIGHTING SCALE INSECTS: NATURAL METHODS

Tip



Use a knife to pry under suspected scales and examine the area beneath with a magnifying glass. The area under normal plant bumps is light green. Tissue under scales is the colour of the surrounding plant, or darkened and sunken, and surrounded by a thin wax line.

Dead scales will remain attached to plants. Scrape some shells off with your knife. Dead scales are dry, while live ones are moist and more firmly attached.

Prevent overfertilisation with nitrogen by using a slow-release fertiliser. Or, use half as much fertiliser as label says, applied twice as often.

Attract and protect native beneficial insects by planting flowers they like, such as White Clover and Yarrow, and by avoiding broad-spectrum pesticides.

Use soap spray to wash off honeydew or sooty mould. This discourages ants and gives natural enemies a better chance of survival.

Prune out badly infested leaves, twigs or branches, and remove them from the garden. Rake up and discard leaves from infested plants.

FIGHTING SCALE INSECTS: USING CHEMICALS

Conventional pesticides can only kill most scale species when the crawlers are active, which can be as little as a few hours a year. Another drawback is that they also kill scales' natural enemies.

Oil sprays used in winter are often more effective and less damaging to natural enemies. To control some scales, you must use oil sprays in summer, when crawlers are active, at the cost of injuring natural enemies briefly.

For best results, identify the scale species you have and check to see if natural enemies are present by looking for scales that are darkened. Then read labels or consult your local nursery to find out the best time(s) to spray oils or other pesticides.