

Horticultural Oils

by Cynthia W Mueller, College Station, TX

January-February is a good time to control scale insects on evergreen shrubs and trees such as camellias, hollies, bay laurel, myrtle, euonymus, citrus, photinias and boxwood through use of a horticultural oil spray. Fruit trees may be sprayed at this time of year in order to control insect eggs that may have been laid in bark and twig crevices.



Usually, the oil treatment will need to be applied only once a year, and is an excellent way to smother a pest that is difficult to eradicate. At times even live oaks fall prey to scale, but due to difficulties of size these plants are much harder to work with. Horticultural oils also have the benefit of being less environmentally harsh than pesticides.

Trees and shrubs are often unable to withstand the continual drain of sap from these sucking insects, and may ultimately be killed. Treatment consists of thoroughly spraying with horticultural oil according to directions, from every direction over the leaves and twigs.

There are several thousand species of "scale insects". Armored scale insects are capable of navigating to fresh feeding grounds when very small, but then live and feed under a protective hard, waxy shield as adults. Tea scales, oyster scales, euonymus scales and wax scales are examples of these. Control sprays work best at a time when the young, unprotected 'crawlers' are present on twigs and bark and can also aid in protection against aphids, white flies and spider mites.

Scales often secrete "honeydew", a sweet solution that is soon invaded by fungus, creating a darkened, sticky appearance on leaves and even on other nearby plants known as "sooty mold". After scale insects have been killed, the bodies will still stick in place and the blackened, sooty mold effect has to wear off the leaves over time.



Other species of scale present a more cottony appearance. Some, such as mealy bugs (*Pseudococcidae*), are able to move about on plants throughout their lives, and may be found down inside bulbs as well as in clusters over plants, or concealed in debris such as fallen leaves nearby.

For successful spraying, look for a period in the early spring that will be relatively warm, but without a forecast of rain for at least two days (45 - 70 degrees F). Carefully follow the label directions in order to apply the correct dilution formula, especially if you plan to spray fruit trees beginning to break dormancy. If there are any doubts, spray a small area and wait a few days to check the results.

After a few weeks, check to see if spraying has killed most of the scale present. Pry off a domed scale with a thumbnail and press. If the shell is dried, the treatment has worked. If there is still yellow, orange or white viscid material, the scales are still living.

Note: (This material appeared in the web periodical *Horticulture Update*, Drs. William C. Welch and Douglas F. Welch, Editors, Department of Extension Horticulture, Texas A&M University, College Station, Texas)

Researched by Iola Thomas Master Gardener, Galveston County

Scale Control: Parasites and predators such as small parasitic wasps, ladybird beetles, other insects and some fungi can attack and significantly reduce scale insect populations. You should delay insecticide treatment in instances where there are only a few scale insects are present and there are many lady beetles are present, or if there are many dead scale with tiny holes which indicate parasitization by small wasps. Insecticide sprays may reduce or eliminate these beneficial insects.

The key to controlling these pests is to closely examine your plants to help keep the scale population to a bare minimum. If the scale population becomes too overwhelming, treat them with insecticidal oils during the dormant season (not actively growing) or with summer oils in spring and summer. Make spring and summer applications when the young larva (called crawlers) are actively moving over the plant. You will need a magnifying glass to see the tiny, pale-yellow scales that move outward and upward on the plant to the most recent growth. Make sure to treat the surface and the underside of leaves for effective control.

Mealy bugs and scale can be controlled on houseplants by swabbing exposed insects with a diluted soap solution (for example, mild dishwashing detergent) or rubbing alcohol. If scale is dead, they will be dry and hollow and flake off easily. Be careful when spraying valuable plants, as phytotoxicity or spray burn is always a possibility when insecticides are sprayed on plants.

*Pictures courtesy of:
University of Florida Horticulture Department*