

Controlling Whiteflies
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Have you brushed the foliage of a plant or moved it, only to have a storm of tiny little winged creatures flit about? Sounds like you may have whiteflies. Whiteflies are tiny sap sucking insects. Their damage causes leaves to turn yellow, appear dry, or fall off the plant. Whiteflies are often seen in greenhouses or on houseplants, but you can also find them outdoors in the garden on vegetables, citrus and ornamentals. Although whiteflies have wings, technically, they are not flies. Whiteflies look like tiny moths and get their name from the white wax that covers the body of the adult. Whiteflies are members of the same insect order (Homoptera) as aphids, scales, leafhoppers and mealybugs. Like aphids and scales, whiteflies secrete honeydew (a sugar-rich substance produced by the insect as it feeds on plant sap.)

The female whitefly deposits her eggs on the underside of leaves in a circle, arc or spiral pattern. The eggs hatch in seven to ten days and the young whiteflies or nymphs grow in size through four stages called “instars.” The first instar is a wingless, small-legged, barely visible “crawler” that is pale and translucent. This is the only mobile stage of the whitefly, except for when it is an adult. The crawler finds a vein of a leaf and starts sucking sap. The first instar lasts three to four days. During the next two instars, the nymph continues to feed, changing to an oval shape and reducing the size of its legs and antennae. The nymph will be a yellowish color if preying on herbaceous plants or black if feeding on woody plants. The fourth instar, the pupal stage, lasts four to six days. The pupa’s identity as a whitefly is more definitive at this stage. Visible under a microscope are the wax filaments, spines, pores and hairs in a waxy shell. Adult whiteflies emerge through a ‘T’ shaped slit in the top of the pupal shell. They have yellowish bodies and whitish wings. Adults live for six to nine days.

Whiteflies are most notable in their nymphal stages when they mass in groups and hide and feed on the undersides of leaves. They produce honeydew and cause yellowing of leaves and ultimately the death of the plant. All stages of the nymphs feed by sucking plant juices from leaves and secreting honeydew. The honeydew secreted by nymphs collects dust and leads to sooty mold growth. Which is a dark fungal mycelia. When you see sooty mold on any of your plants, wash it off; the mold covers the plant and inhibits photosynthesis. The honeydew created by whiteflies attracts ants. Which disrupt the whitefly natural predators. Thus, it is important to control the ants. This can be done by banding the tree trunk with a sticky substance. Be sure to check it every one to two weeks to see if it needs to be reapplied. Some types of mulch also repel ants. Aromatic pencil cedar mulch repels Argentine ants, but pine mulch provides an ideal nesting site for ants and should be avoided if whiteflies are a problem.

The most common type of whitefly is the greenhouse whitefly. The adult has long waxy filaments and a fringe of wax around the margin of the pupa. The greenhouse whitefly’s wings are unmarked and lie flat on top of its body.

Another common whitefly is the ash whitefly. It produces a large amount of wax; and in its pupal stage has a thick waxy coat. The adult ash whitefly has plain white wings with no markings. The ash whitefly preys on broadleaf trees and shrubs.

Natural enemies of the whitefly include lacewings, bigeyed bugs, minute pirate bugs, and small lady beetles. Bigeyed bugs are brownish or yellowish, have a wide head with prominent bulging eyes that are spaced widely apart and give them a good view of their prey. Minute pirate bugs are just that, very small - 1/12 to 1/5 of an inch. The minute pirate bug is the first and most predaceous insect to appear in the spring. It is black to purple-ish in color with white markings and has a triangular-shaped head. Another whitefly crawler predator is the parasitic wasp. It feeds on nymphs, especially ash whitefly nymphs.

Whiteflies can also be controlled by washing them off with a spray of water. A small, hand-held, battery operated vacuum can also be used to remove adult whiteflies from leaves. Use this approach in the early morning when whiteflies are sluggish. Freeze the vacuumed whiteflies overnight to destroy them. Aluminum foil and reflective mulch also work to repel whiteflies.

Insecticides have been found to have a limited effect on whiteflies. For severe infestations try insecticidal soap or insecticidal oil (such as neem). Only whitefly nymphs that are directly sprayed will be affected so the plant must be thoroughly covered, including the undersides of the leaves, with the spray solution. Avoid pesticides as these substances will also kill whitefly predators.

For a more in depth discussion on Controlling Whiteflies, please see Pest Notes for Home and Landscape, # 7401. This publication and others like it can be downloaded at no charge from the University of California Integrated Pest Management website at www.ipm.ucdavis.edu/PMG/menu.invertebrate.html.

The UCCE Master Gardeners are presenting a class on ,”Growing Orchids” tomorrow, May 1, beginning at 9 a.m. in Government Building C, 2850 Fairlane Ct. in Placerville. Master Gardeners are also available to answer home gardening questions Tuesday through Friday, 9 a.m. to noon, by calling (530) 621-5512, walk-ins are welcome. The office is located at 311 Fair Lane in Placerville. For more information about our public education classes and activities, go to our Master Gardener website at [http://ceeldorado.ucdavis.edu/Master Gardener/](http://ceeldorado.ucdavis.edu/Master_Gardener/).