

Providing Leadership in Environmental Entomology

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WHITEFLIES

Adult whiteflies are small (1/16-1/10 inch) sucking insects. Adults have two pairs of wings covered with a white, waxy powder. This gives them a milky, white appearance. At rest, they hold the wings "roof-like" over the body. The first immature stage has six legs and moves about. The second stage immature and pupal stage is scale-like. Eggs are about 1/100 of an inch and attached to short stalks. Infestations are often noticed when the host plant is disturbed and a cloud of white, snow flake-like adults fly from the plant and then settle down.

Whiteflies attack many flowers and some ornamental shrubs. They are usually associated with greenhouse plants, but also thrive outdoors during the summer months.



Whitefly adults on the underside of a leaf. Photo: Clemson-USDA Slide Series

Infested plants lack vigor and usually turn yellow when heavily infested. In addition, the leaves are often covered with black, sooty mold that grows on the honey dew secreted by the nymphs. Severe infestations may eventually kill the plant.

Anytime during the summer, all stages of development may be found on an infested leaf. Eggs are laid by mature females soon after they emerge and mate. They lay the eggs on the underside of leaves. Hatching

takes place 4-21 days later depending on the temperature. The newly hatched young (nymphs) crawl around for a few hours, then settle down, insert their mouth parts into the leaf, and begin to feed. After molting, they assume the scale-like appearance. The nymphal stage lasts for about a month. They pupate in the case and the adults emerge a few days later. Adults live about 30 to 45 days.



Whitefly life stages. Photo: Clemson University - USDA Cooperative Extension Slide Series, <http://www.ipmimages.org>

Several insect predators and spiders feed on whiteflies. Fungal diseases also attack them. As good as these are, they are generally unable to control heavy infestations.

The best control is not to buy infested plants and introduce them to the garden or greenhouse. ALWAYS check plants carefully before purchasing them. Jar the plant and watch for adults flying from the plant. Carefully inspect the underside of the leaves for immature whiteflies and signs of honey dew. When new plants are brought home, isolate them from other plants for a few days. Inspect the new plants regularly and treat or discard infested plants. One untreated, infested plant can cause the spread of whiteflies to many others in garden or greenhouse.

Proper chemical control depends on the plant and whether it is a house plant or outdoor plant. Numerous aerosol or pump-spray formulations are available for indoor use. Read the label and check that both whiteflies and the plant to be treated are also listed on the label.

For outdoor plants, traditional insecticides, neem extracts, insecticidal soaps, horticultural oils, and others are labeled for whitefly control on certain ornamentals. **ALWAYS READ THE LABEL CAREFULLY BEFORE USE.** If the infested plant is not listed, **DO NOT USE** the insecticide. Some insecticides are very phytotoxic to certain plants and may severely burn the foliage or kill the plant. Insecticides usually have to be applied three or four times at five to seven day intervals to achieve complete control.

For other publications in our Entomology Insect Information Series visit our web site at <http://www.clemson.edu/esps>.

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