

Greenhouse Whitefly

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SCIENTIFIC NAME: *Trialeurodes vaporariorum* (Westwood)

CLASS: Insecta

ORDER: Hemiptera

FAMILY: Alerodidae



Greenhouse whiteflies (Whitney Cranshaw, Bugwood.org)



Greenhouse whitefly adult, egg, crawler, and pupa (NC State Extension)

Description

Adults

About 1.5 mm long, the adult is a white insect that resembles a tiny moth.

Eggs

The small oblong eggs, pale green to purple, are deposited on the lower leaf surface, often in a circle or a crescent.

Nymphs

The first instar nymph is mobile and similar to a scale insect crawler. Later nymphal stages are yellowish with red eyes and are immobile. They resemble soft scale insects but have an orifice on the back through which honeydew is expelled.

Pupae

The oval pupa is pale green to black when parasitized. The normal color, when empty, is clear with a fringe of glass-like setae, and with some long glass-like setae on the dorsal surface. The pupal case sits upon a vertical palisade of closely appressed wax rods (these are readily visible in side view).



Biology

Distribution

Greenhouse whiteflies are worldwide pests of greenhouse-grown ornamentals and vegetables. First discovered in England in 1856, they were found in the northeastern United States in 1870. Tropical Central or South America are suggested origins of the greenhouse whitefly.

Host Plants

Greenhouse whiteflies infest a wide variety of ornamental and vegetable crops, and they can survive outdoors during the growing season, particularly in sheltered locations. Even trees may be infested (redbud, Kentucky coffee berry, and avocado).

Damage

Infested plants become chlorotic and unthrifty. Honeydew and sooty mold further detract from the appearance of the crop. Unless controlled, greenhouse whiteflies may completely destroy the commercial value of floricultural crop.

Life Cycle

Greenhouse whiteflies reproduce relatively slowly (one generation every 30 to 45 days), but each may lay up to 400 eggs and live as long as 2 months. Adults are usually found on the lower surface of new leaves. The new crawlers move about the plant for a day or two, often from leaf to leaf before inserting their mouthparts to feed. Once this occurs, they likely do not move again until mature. The crawlers molt into nymphs and then into pupae. Finally, a new generation of whitish yellow adults emerges. They are soon covered by a white wax bloom.

Management Strategies

Lower greenhouse temperatures used in the culture of some bedding and potted plant varieties tend to encourage infestations, because naturally occurring parasitic wasps (*Encarsia formosa*) are reproductively inhibited at temperatures below 24°C (75°F). The lady beetle *Delphastus pusillus* also attacks greenhouse whitefly. Control of whiteflies is difficult because the eggs and immature forms are resistant to many aerosol and insecticide sprays. One must make regular applications of pesticides to control emerging adults until the last of a whole generation of immature whiteflies has emerged. However, some of the synthetic pyrethroid and synthetic insect growth-regulator pesticides are extremely effective and need not be applied as often.

