Introduction & Key to Whiteflies

From: *Insect and Related Pests of Flowers and Foliage Plants*. Baker, J.R. ed. 1994 (revised). NC Coop. Ext. Service publication AG-136. https://content.ces.ncsu.edu/insect-and-related-pests-of-flowers-and-foliage-plants

Greenhouse whitefly adults (Whitney Cranshaw, Bugwood.org)

Whiteflies are very small insects that resemble tiny white moths. Whiteflies usually feed on the lower surface of their host plant leaves. Whiteflies differ from most insects in the way they mate (side by side) and that their eggs absorb water from the host leaf after the eggs are inserted into the lower surface. From the egg hatches a minute crawler stage that moves about the leaf until it inserts its microscopic, threadlike mouthparts to feed by sucking sap from the phloem. Adults and nymphs excrete honeydew, a sticky, viscous liquid in which dark sooty molds grow.

Because many species of adult whiteflies are similar in appearance, entomologists use the last nymph stage for specific identification. In 1986, a whitefly very similar to the sweetpotato whitefly suddenly became a noticeable pest of poinsettias and commercial vegetables in Florida and California. This whitefly spread throughout the greenhouse industry in the United States in the next few years and is now the most frequently encountered whitefly pest of poinsettia and gerbera daisy. In 1994, Bellows and Perring described this whitefly as a new species, the silverleaf whitefly. The silverleaf whitefly causes the leaves of melons and stems of poinsettias to blanch noticeably when these whiteflies are abundant.

Adult with gray bands across the wings (NC State Extension)

Pupal case (when viewed from the side) appears to be sitting on closely set posts of wax around the margin (NC State Extension)

Pupal case with a dark area along the back (NC State Extension)

Key to the most common whitefly pests of flowers and foliage plants

1. Pupal case (when viewed from the side) appears to be sitting on closely set posts of wax around the margin.....**2**

1.' Pupal case not sitting on posts of wax around the margin.....**3**

2. Pupal case with a dark area along the back; adult with gray bands across the wings.....**Bandedwinged whitefly**.

2.' Pupal case without a dark area along the back; adult with gray bands across the wings.....**Greenhouse whitefly**.

3. Pupal case oval in shape, flat, without prominent caudal setae or caudal projections.....**Citrus whitefly**.

3.' Pupal case with prominent caudal setae and caudal projections, plump, not flat.....**4**

4. On Azalea; pupal case without large dorsal setae, even if leaves are hairy……**Azalea whitefly**.

4.' Not on azalea; pupal case with large dorsal setae if leaves are hairy or without large setae if leaves are smooth.....**5**

5. Thoracic tracheal folds relatively wide, wax at margin opening of tracheal folds relatively wide, the posterior wax slightly wider than the bases of the caudal setae, fourth anterior submarginal setae present; does not cause white stem symptom on poinsettia and silverleaf symptom on squash.....**Sweetpotato whitefly**.

5.' Thoracic tracheal folds relatively narrow, wax at margin opening of tracheal folds relativel narrow, the posterior wax no wider than the bases of the caudal setae, fourth anterior submarginal setae absent; causes white stem symptom on poinsettia and silverleaf symptom on squash.....**Silverleaf whitefly**.

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