



Vegetable Pests – Whiteflies

What are Whiteflies?

Whiteflies (*Bemisia tabaci*, *Trialeurodes vaporariorum*) are common pests of tomatoes, cucumber, beans, cabbage, peppers, squash, potato, peanut, and cotton. Whiteflies are small, soft-bodied sucking insects. Adults are about 1.5 mm long, with yellow bodies and white wings. Newly emerged nymphs have legs and antennae and are mobile. Older nymphal stages are oval-shaped, somewhat translucent to whitish-yellow in color, lack legs and antennae, and remain fixed on the leaf surface. The last nymphal stage (pupa) has red eyespots and, depending on the species, may have waxy filaments around the edge of the pupa.

What is the Damage Caused?

Whiteflies reduce yields by feeding on the undersides of leaves, removing nutrients from the foliage resulting in poor plant growth. Infestations may cause fruit to ripen unevenly, particularly with *Bemisia* in tomatoes. Whiteflies produce a sticky substance (honeydew) in large quantities that can tarnish fruit. Black sooty molds may grow on the honeydew. Whiteflies are vectors some important plant gemini viruses and tospoviruses.

How to Manage Whiteflies in Vegetables?

Biological control: Natural enemies, including parasitoid wasps and lady beetles, help reduce whitefly populations.

Cultural control:

- Maximize distances and time intervals between host crops.
- Destroy and remove nearby crop residues and weeds that may serve as hosts for whiteflies.
- If there is a severe infestation, harvest early, and destroy remaining crop residues where whiteflies may survive.

Pesticide Treatment Options:

Monitor whitefly populations in order to make good pest management decisions. Sample the field, checking the undersides of leaves for nymphs and adult whiteflies. If most plants have a significant population, consider using pesticides.

- Imidacloprid (Admire Pro*) at 510-765 ml/ha (7-10.5 fl. oz/acre). Can be used for all whitefly species, but most effective against silverleaf whitefly (*Bemisia argentifolii*). Do not apply to crops grown for seed. Most effective if applied during transplant. Pre-harvest restrictions depend on crop – see product label for specific guidelines. Wait 12 hours after application before reentering the crop.
- Insecticidal Soap at labeled rates. Apply thoroughly including undersides of leaves. May require multiple applications.
- Narrow Range Oil (Saf-T-Side, Ultra-Fine Oil*) at 1% solution or less. Requires multiple applications.

For more treatment options visit www.ipm.ucdavis.edu

*Commercial name. The authors make no endorsement towards commercial brands mentioned in this document nor are the absence of other brand names an implication of our disapproval.

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References: Statewide IPM Program, Agriculture and Natural Resources, University of California

<http://www.ipm.ucdavis.edu/index.html>

Greg Hodges, Taxonomic Entomologist, Florida Dept. of Agriculture & Consumer Services

<http://www.doacs.state.fl.us/pi/enpp/ento/b.tabaci.html>

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Whitefly nymphs and adults. Adult greenhouse whiteflies have emerged from these pupal cases¹

For more information visit: International Programs: <http://ip.ucdavis.edu>

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