

THE Q-BIOTYPE WHITEFLY, a New Whitefly in Florida A guide for homeowners

In late April, 2016, a new type of sweetpotato whitefly (also known as the silverleaf whitefly, *Bemisia tabaci*) was found in several counties in Florida. It's referred to as the "Q-biotype" whitefly. The concern is that it is very resistant to pesticides and is a threat to food crops.

The Q-biotype whitefly was initially detected in Palm Beach and in a number of other Florida counties. So far, it is found in homeowners' yards and in nurseries as far north as Duval County as well as Broward, Highlands, Hillsborough, Martin, Pinellas and Seminole counties.



This whitefly is very small and capable of infesting a wide range of landscape plants and crops. In Florida, these are the landscape plants most often infested:

- hibiscus
- lantana
- crossandra

Food crops that could be affected include: tomatoes, squash, beans, watermelons and many other vegetables. This whitefly is known to spread viruses that affect vegetables. Controlling this pest is very costly to farmers and plant viruses significantly reduce crop yields.

But DON'T panic. So far, the Q-biotype whitefly is not causing severe plant damage or mess in landscapes but **its spread needs to be stopped**. This is a cooperative effort that you play a major role in. The good news is that there is funding and research projects underway. Funding sources includes: USDA-ARS Floriculture and Nursery Research Initiative and a USDA-APHIS Farmbill grant to develop biological and IPM programs to manage this pest. UF/IFAS partners include USDA-ARS, USDA-APHIS, and the Florida Department of Agriculture and Consumer Services.

Help stop its spread:

- Don't transport infested plants or clippings.
- Securely bag infested plant clippings and place in the trash.
- Treat infested plants. See "Managing whiteflies" on page 2 and Tables 1 & 2 for treatment options.

What to look for:

- Tiny, white, gnat-like insects on plants. Shake your plants to quickly see if plants are infested since the adults will fly.
- Most adults and their young are on the **underside of leaves**. (see photos on the next page).
- Sooty mold on your plants. Sooty mold is a black fungus on top of leaves. Keep in mind that other sap-feeding insects such as aphids, scales, mealybugs, and other species of whiteflies can create sticky

honeydew on which that sooty mold grows. To help remove sooty mold, thoroughly wash plants off with a strong stream of water once the pests are under control.



Adult sweetpotato whitefly (*Bemisia tabaci*) magnified. Credit: Lyle Buss, UF/IFAS

Young sweetpotato whiteflies on the **underside** of a leaf. Use a magnifying lens to find them. Credit: Lance Osborne, UF/IFAS

How sweetpotato whitefly adults differ from other species of whiteflies.

The four things to look for:

- Tiny size. They are less than 1/25th of an inch long (smaller than other landscape whiteflies).
- Wings angled sharply downward covering the sides of the body.
- Yellowish colored head and body.
- Wings pure white. No bands or spots on the wings.

If you need verification that you found the Q-biotype sweetpotato whitefly, contact your county UF/IFAS Extension office. Office locations are found at <http://edis.ifas.ufl.edu/> or search the web for “solutions for your life”. Both are University of Florida web sites.

Do not take infested plant material with live whiteflies off your property. Your local county Extension office will provide you with instructions on how to safely submit samples.

Managing whiteflies: as soon as you find whiteflies, you can do the following:

Small plants and fruit trees – Use an insecticidal soap or horticultural oil sprayed once a week for 3 - 4 weeks. Repeat as needed. Direct the spray to the underside of the leaves. When used as directed, these sprays are least-toxic to you, to beneficial insects and to the environment.

Larger plants & ornamental trees; heavily infested ornamental plants – If spraying with soaps or oils is not practical, you may want to consider using a systemic insecticide (labeled for whitefly control in landscapes) that can be applied to the soil as a drench, as a granule, or as a tablet. Some can be sprayed onto the bark (the label will say so). Systemics may take several weeks to be effective for large trees but are VERY long lasting (9 - 12 months). A list of insecticides is on the next page (Table 2). You may also consider hiring a landscape pest control company who has experience in managing whiteflies.

Because the Q-Biotype is resistant to many pesticides, avoid using other products unless they have been shown to be effective against this strain of whitefly.

When using soaps and oils, avoid homemade formulations since they may cause more plant damage than those sold to protect plants and may not be effective. Sensitive plants are usually listed on labels, however, you may want to do a spot treatment and wait a couple days before spraying the whole plant.

The following tables list insecticides labeled for homeowner use against whiteflies. These are available at garden centers, retail nurseries, hardware stores, and on the Internet.

ALWAYS FOLLOW LABEL DIRECTIONS. The Label is the Law. This will protect you, others, pollinators and other wildlife, and the environment.

Table 1. **Contact** (sprayed directly onto the pest). These are least-toxic, that is, less harmful to natural enemies of pests and to the environment.

Trade Name(s)	Active Ingredient
BioNeem (Bonide); Neem Oil (Green Light, Southern Ag); Rose Defense (Green Light)	Neem oil
Organocide; Ultra-fine Horticultural Oil (Sunspray and others)	Paraffinic oil, vegetable oil
Insecticidal Soap (various brands)	Potassium salts of fatty acids

Table 2. **Systemics** (usually applied to the soil at the base of the plant and very long lasting). The following **cannot be used on tropical fruit trees** unless the label says so.

Trade Name(s)	Active Ingredient
Tree & Shrub Insect Control with Safari (Green Light)	Dinotefuran
Ortho Max Flower, Fruit and Vegetable Insect Killer	Acetamiprid

For more information

- Contact your county Extension office <http://solutionsforyourlife.ufl.edu/map/index.shtml>
- Florida Whiteflies <http://mrec.ifas.ufl.edu/Iso/Whiteflies.htm>
- Sweetpotato Whitefly B-Biotype <http://edis.ifas.ufl.edu/in286>



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