

The GUMBO LIMBO SPIRALING WHITEFLY, a New Whitefly in South Florida

A guide for homeowners

This new whitefly is a large, slow moving insect capable of infesting a wide range of landscape plants such as:

- gumbo limbo
- banana
- black olive
- mango
- palms
- live oak
- some shrubs such as copperleaf, cocoplum and wax myrtle
- and other plants



Adults on the underside of a palm leaflet.

But DON'T panic. This whitefly is different from the ficus whitefly. So far, the gumbo limbo spiraling whitefly is not causing severe plant damage such as plant death or severe branch die-back.



Eggs are laid in spirals.

What to look for: white spirals and a build-up of a white, waxy substance on the underside of leaves. This coats the eggs and immature whiteflies. If populations build-up greatly, infested plants can become covered with the white, waxy substance. This can sometimes become weakened and also be disfigured by the black sooty mold that grows on the insect's excrement (referred to as honeydew). The sticky honeydew can accumulate on cars, pool decks and patio furniture from infested trees overhead. Honeydew does not damage paint. Once the insect is under control, the sooty mold and honeydew will disappear.

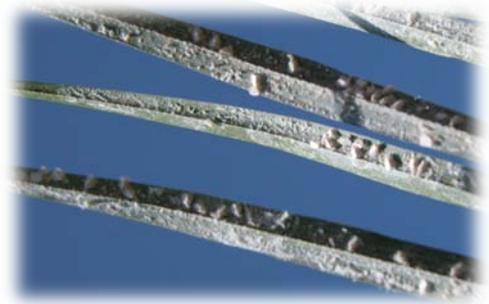
Management: as soon as you see the white spirals, you need to do one of the following.

Small plants - thoroughly wash plants off with a strong stream of water. Follow-up with insecticidal soap or horticultural oil sprayed once a week for 3-4 weeks. Repeat as needed.

ALWAYS FOLLOW LABEL DIRECTIONS. The Label is the Law.

Larger plants & ornamental trees; heavily infested ornamental plants - thoroughly wash plants off with a strong stream of water. *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. 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 other side of this page.

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Underside of an infested palm frond.

*Tip: if you have many heavily infested plants, you can purchase professional strength, non-restricted use insecticides. This may be more cost effective compared to the homeowner version of systemic insecticides. Consult your phone book or your County Extension office for pesticide suppliers in your area. Or hire a professional landscape pest control company with experience controlling whiteflies in the landscape.

Fruit trees - call your County Extension office for recommendations since most pesticides are not labeled for tropical fruit trees. See management suggestions for small plants listed above. Whiteflies can be wiped off banana leaves with a cloth.

The tables below list insecticides labeled for homeowner use against whiteflies (plants and trees EXCEPT fruit trees). These are available at garden centers, retail nurseries, and hardware stores.

Contact (sprayed directly onto the pest. These are least-toxic - less harmful to natural enemies of pests and to the environment.)

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

Systemics (usually applied to the base of the plant as a soil drench and very long lasting. Less harmful to natural enemies of pests.)

| Trade Name(s) | Active Ingredient | Chemical Class |
|---|-------------------|----------------|
| Tree & Shrub Insect Control with Safari (Green Light) | Dinotefuran | Neonicotinoid |
| Tree & Shrub Insect Control (Bayer Advanced, Ortho Max); Tree & Shrub Protect and Feed (Bayer Advanced); and other products | Imidacloprid | Neonicotinoid |

Others (some may harm natural enemies of whiteflies.)

| Trade Name(s) | Active Ingredient | Chemical Class |
|--|--------------------|-----------------|
| Flower, Fruit & Vegetable Insect Killer (Ortho) | Acetamiprid | Neonicotinoid |
| Bug-B-Gon Max Lawn & Garden Insect Killer (Ortho) | Bifenthrin | Pyrethroid |
| Rose & Flower Insect Killer (Bayer Advanced); Lawn & Garden Insect Killer (Schultz) | Cyfluthrin | Pyrethroid |
| Triazicide Once & Done Insect Killer (Spectracide), liquid | Lambda-cyhalothrin | Pyrethroid |
| Malathion (various brands) | Malathion | Organophosphate |
| Indoor/Outdoor Broad Use Insecticide (Hi-Yield) | Permethrin | Pyrethroid |
| Yard & Garden Insect Killer (Bonide); Rose & Flower Insect Spray (Spectracide) | Pyrethrins | Botanical |

For more information

<http://miami-dade.ifas.ufl.edu/> and click onto the " gumbo limbo spiraling whitefly" link or contact the UF/IFAS Miami-Dade County Extension office (305 248-3311).



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Photo credits: M. Gutierrez and H. Glenn, UF/IFAS TREC.



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Common questions about the gumbo limbo spiraling whitefly (*Aleurodicus rugioperculatus*)



Photos: H. Glenn, UF/IFAS

1. Is the tree going to die?

In most cases, this whitefly will NOT kill healthy, large trees and palms, however, small, newly planted or unhealthy plants with extremely high infestations could possibly die. The type and level of damage (leaf damage, leaf drop, branch dieback, decline, etc.) will be dependent on the type of plant. This whitefly does NOT cause the sudden leaf drop as seen with the ficus whitefly.

The most noticeable symptoms of this whitefly are: a heavy deposit of flocculent, white, waxy material that covers leaves; a sticky substance called honeydew that is excreted by the whiteflies and black sooty mold that grows on the honeydew. Both the honeydew and sooty mold will coat plant surfaces as well as objects or other plants below or near the infested tree. Sooty mold is a fungus but is not a plant disease, however, it may interfere with photosynthesis, and if excessive, may reduce plant growth, and may cause early leaf drop. The white waxy material, honeydew, and sooty mold usually wear off following control of the whitefly infestation



Photo: H. Mayer, Miami-Dade Extension

2. What is the best management?

When a new pest, such as the gumbo limbo spiraling whitefly first arrives, it often reaches very high populations and sometimes can be very damaging. In subsequent years after its arrival, further outbreaks frequently show a steady decline in severity as natural controls help reduce the infestation. After several years the impact is usually greatly reduced. Although some insecticide use may be necessary, it is very important to understand the importance of natural enemies and the need to focus on long-term, biologically based management. Some useful strategies are:

- Make sure the insect has been properly identified. There are many species of whiteflies and similar looking insects found on landscape plants. Contact the UF/Miami-Dade County Extension office for a proper identification and recommendations (305 248-3311).
- Monitor plants for early signs of infestation. The spiraling eggs are easy to see and are a good target to look for. It is easier and cheaper to treat when the infestation first starts. Do not wait until you see the leaves covered in white floccules of wax, honeydew, or sooty mold.
- Be aware of the presence of natural enemies like lady bugs, parasitic wasps, and others. They will be very helpful for long-term management.
- Avoid the use of insecticides that can kill the natural enemies when applied as a foliar spray.
- After controlling the whitefly infestation, the white, waxy material and sooty mold that remains on the plant will take time to disappear unless hosed off.
- On small trees, palms, and fruit trees ultra fine horticultural oil and insecticidal soap can help control this pest, but 2 or more applications will be necessary 7-10 days apart. These products are available at garden centers and retail nurseries. Follow the label directions. Soaps and oils are less destructive to beneficial insects than other contact insecticides.
- Systemic insecticides are products that move through the vascular tissue of the plants. Whiteflies are poisoned as they feed on the plant sap. Contact insecticides, as the name implies, must make contact in order to kill the insect. Contact products can also kill beneficial insects. Systemic

insecticides can provide longer term control than contact insecticides particularly if the systemic insecticide is applied to the soil or trunk. For the above reasons it is recommended that where possible it is preferable to use systemic products.

- Systemic insecticides applied to the soil take time to work. Expect the product to start controlling the pest after about 1-2 weeks for small trees, palms and shrubs, and up to a month for large trees, and palms. However, systemic insecticides often last 9 to 12 months if applied to the soil.
- Be aware that some trees naturally lose their leaves during the dry season (late winter for gumbo limbo). Early spring is a good time to apply systemic insecticides to the soil.
- **For fruit trees only**, make sure that the plant is listed on the pesticide label **and do not deviate from label instructions as to how and when to use the product**. If tropical fruit trees are not listed on the label, do not use the insecticide.



Photo: H. Mayer, Miami-Dade Extension

3. Who can apply the insecticide?

If you are a homeowner, you can purchase and apply any non-restricted use pesticide to plants on your property, but not those outside your property line. In most parts of Miami-Dade County, the homeowner is responsible for trees planted in the swale (right-of-way) in front of their property. If the plants are in a homeowner association public area, right-of-way, commercial or industrial area, the property owner needs to hire a pest control company. Ask for proof of the proper pesticide license. In the State of Florida, anybody who is going to be paid to apply pesticides must have the proper pesticide license.

4.-Do I need to prune or remove my tree?

You don't need to prune or remove your beautiful tree. It will cost you more money to remove the tree than the treatment. Don't panic! In the vast majority of cases the tree will survive. However, if a tree is in need of pruning, it is best to remove any branches prior to applying the insecticide. Follow good arboricultural practices to do that!

5.-What else I need to do?

When insects feed on plants, it puts the plants under stress. Therefore, proper watering and fertilizing is important to keep the tree as healthy as possible. If the palms are in bad shape, it is suggested to apply fertilizer (i.e. palm special 8-2-12-4) at the recommended label rate. Also, if you prune an infested tree/shrub or if your infested palms lose their fronds, take them to your closest landfill to prevent further spread of this whitefly!

For more information, please contact the Miami-Dade Extension Service at 305-248.3311 or our website <http://miami-dade.ifas.ufl.edu>. Look for the gumbo limbo spiraling whitefly link in the center of the page.

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