

Whiteflies on My Plants – What Do I Do?

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What is a whitefly? First and foremost, they are not flies. In fact, these tiny, white pests are more closely related to aphids, scales, and mealybugs. The adults resemble small, white moths. The immature stages (nymphs) which are typically found on the underside of leaves can vary a little more in their appearance, but are typically oval, somewhat flat, and do not resemble a typical insect at all. They are sometimes transparent or can be light yellow, green or dark in color (Fig. 1).



Whiteflies as well as some other insects like aphids, mealybugs and soft scales, excrete a clear, sticky substance called honeydew. The amount of honeydew produced is dependent on the type of whitefly and plant it is feeding on.

Insects that produce a large amount of honeydew can be a serious nuisance because

everything in the vicinity of an infestation becomes covered with the sticky honeydew which also provides an excellent growing surface for sooty mold (Fig. 2). Unfortunately, usually the presence of the sooty mold is noticed before it is realized that there is an insect problem and by this time, it is usually a heavy infestation.



Whiteflies are common pests on many different types of plants and some are considered among the world's worst pest problems on some agricultural crops. Whiteflies are also fairly common on numerous

ornamental plants and in recent years, there have been several new whitefly pests causing problems in the south Florida landscape. In 2007, the ficus whitefly showed up in Miami-Dade County and has since spread through numerous more counties. This whitefly only attacks ficus causing leaf yellowing and severe leaf drop. This can be particularly devastating because in south Florida, ficus is commonly used as a privacy hedge. Then, in 2009, another whitefly showed up called the Rugose spiraling whitefly (previously called the gumbo limbo spiraling whitefly). Unlike the ficus whitefly, this whitefly will attack many different types of ornamental and fruit trees, shrubs and palms. Left unmanaged, the Rugose spiraling whitefly creates a very messy situation because of the excessive honeydew and white, waxy flocculent (Fig. 3) it produces and then the subsequent growth of sooty mold. Everything in the vicinity of an infestation becomes sticky and turns black from the mold. Finally, late last year another whitefly

was identified called the Bondar's nesting whitefly. Although it can feed on several types of plants it has been mostly found on ficus. It also can be messy but not quite as bad as the Rugose spiraling whitefly.



So, what can be done about these terrible whiteflies? Typically, invasive pests are at their worst for the first several years. We can't expect them to go away completely, but often they become less of a problem as time goes on. One of the reasons is that natural enemies (i.e. "the good guys") finally take their toll on the pest population. There are several insects and organisms already in the landscape that feed on these pests and first and foremost, it is important to keep them around. Buying and releasing natural enemies, such as lady beetles, requires an understanding of both the pest and the natural enemy. There needs to be a match between the pest and the natural enemy. In fact, most lady beetles do not feed that well on whiteflies. There is ongoing work to determine if any of the commercially available natural enemies would work against these whiteflies, but as of now, anything an individual would purchase and release in their yard will probably not be very successful.

Unfortunately, no matter what steps you take to control your whitefly infestation, you will likely have some negative impact on the natural enemies. But some steps are less detrimental to the natural enemies than others. One step you can take, particularly on smaller trees and shrubs, is washing with water. Many of the stages of this insect cannot get back on the plant once washed off. Plus washing plants off with water helps clean things up so that you can make better decisions on what does and does not work. The use of soaps and oils can be useful but care must be taken when using these products. Some of these products can harm your plants, particularly under warm conditions. Always pre-test first. These products work by contact so it is important to get good coverage on the leaves, particularly on the underside where most of the whitefly reside. These types of products usually require re-application every 7-10 days. It is a good idea to repeat this procedure maybe 3-4 times and then make a determination if you need to continue. Like with washing with water, there are limitations if you want to control whiteflies on larger trees and palms. Sometimes, the severity of the infestation or the size of the tree will require you to use an insecticide to get control. Systemic insecticides that can be applied to the soil or trunk will provide the longest control (6-12 months) and have the least amount of contact to natural enemies. There are several products and methods that can be used. You can go to <http://trec.ifas.ufl.edu/mannion/> or www.flwhitefly.org for more information about managing these whiteflies.

Fig. 1. Ficus whitefly (immature and adult) (Photo: H. Glenn, UF/IFAS)

Fig. 2. Sooty mold (Photo: C. Mannion, UF/IFAS)

Fig. 3. White, waxy flocculent produced by the Rugose spiraling whitefly