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Pest Check

Whiteflies on Houseplants

The silverleaf whitefly is the most economically important whitefly species in Texas, with a host range of more than 500 plant species, including poinsettias. Adults are 1/16 inches in length with white wings and pale yellow bodies. They will flutter around when disturbed and tend to be more active during the late morning and afternoon, compared to early morning and evening.

The female whitefly will lay oblong, smooth, yellow to amber-brown colored eggs randomly on the underside of leaves. The eggs hatch into flat, greenish-yellow, oval nymphs that begin to suck the sap of plants. Both the nymphs and adults remove phloem from leaves, which causes the leaves to turn pale and die or drop off. Since whiteflies remove phloem, they also excrete honeydew. This honeydew is a perfect media for sooty mold to grow. In addition, plant disorders and virus transmission can result from whitefly feeding.

Some Suggestions for Control Options:

Some Non-Chemical Control Options:

- 1) Inspect new plants before purchase and treat any infested material.
- 2) Remove and destroy heavily infested plants from the landscape or interiorscape.
- 3) Introduce and preserve natural enemies, such as ladybeetles, green lacewings, minute pirate bugs, big eyed bugs and damsel bugs that are predators of whiteflies and minute wasps, such as *Encarsia formosa* and *Eretmocerus eremicus* are parasitoids of whiteflies.
- 4) *Beauveria bassiana*, a fungus sold commercially can be used to control whiteflies.

Some Chemical Control Options:

Insecticide misuse can result in whitefly populations that cannot be controlled, since chemical overspray can lead to whitefly resistance. Several classes of insecticides are labeled for use against whiteflies and these classes should be rotated in order to avoid resistance. Systemic insecticides can be used such as those containing imidacloprid, dinotefuran or thiamethoxam. Also insecticidal soaps and horticultural oil can be used.



Picture of whitefly. Photo by Dr. Scott Ludwig, Program Specialist-IPM, Texas AgriLife Extension, Texas A&M University System.

FUNGUS GNATS HOVERING AROUND PLANTS

Fungus gnats are typically weak fliers, so they usually remain near the potted plant or rest on foliage or growing media. Adult fungus gnats are 1/8 to 1/10 inches in length, grayish black in color, slender bodied with long legs and antennae. They are usually identified by the vein pattern on their wings, with the common species having a Y-shaped wing vein. Female fungus gnats lay tiny, oval eggs in moist, organic debris. The eggs hatch into larvae that are legless, elongate, white to clear in color, with black heads. The larvae eat organic mulch, compost, root hairs, and fungi and can damage roots of plants, causing wilting, poor growth and loss of foliage. Pupation occurs in the soil in silk-like cocoons. The complete lifecycle from egg to adult occurs in about 4 weeks, so continuous reproduction can occur in controlled environments such as homes or greenhouses.

Some Suggestions for Control Measures:

Prevention

Inspect plants before purchasing and use sterile potting soil.

Allow soil to dry for several days to kill some larvae, since over watering, poor drainage and water leaks can result in a large population of fungus gnats. If the top layer of the soil becomes dry, then the larvae will die and the female fungus gnats will not lay eggs in the soil.

Discard heavily infested plants as to avoid infesting other plants.

Biological Control

Some predators such as *Steinernema* spp. nematodes and *Hypoaspis* mites that can be applied to soil to control fungus gnat larvae.

Bacillus thuringiensis israelensis (Bti) can be applied soil to control fungus gnat larvae.

Chemical Control

Larvae can be controlled by many chemicals, including azadirachtin, fenoxycarb and imidacloprid. Adult fungus gnats can be controlled by foliar treatments, including the chemicals horticulture oil, pyrethrins, and bifenthrin.



Picture of fungus gnat. Photo found at Texas A&M University:
<http://hortipm.tamu.edu/pestprofiles/other/fungnatd/fungnatd.html>.

Spiders in Texas

As winter weather approaches, spiders are likely to enter indoors. Spiders are closely related to ticks and scorpions, all belonging to the Class Arachnida. Spiders are beneficial to our environment by controlling insect populations. However there are two

groups in Texas that are considered harmful to humans, the black widows and the recluse spiders.

Dangerous Spiders:

Recluse Spiders

There are five species found in Texas, but only two species are considered dangerous. Their color varies from orange-yellow to dark brown and they are the about the size of a quarter. Their most distinguishing characteristic is the eye pattern and the violin marking on the top side of its first body region, the cephalothroax. These spiders have six eyes arranged in three pairs, forming a semi-circle. The eyes also form the base of the violin shape that extends to its abdomen.

Recluse spiders are shy and will hide during the day. They are most active at night, so people are usually bitten at night. Recluse spiders are usually found in garages, wood piles, cluttered attics, closets bathrooms, bedrooms, and under furniture.

The recluse spiders' bite may cause effects immediately or be delayed, depending upon the amount of venom injected. The bite usually causes a stinging sensation followed by intense pain. Within 24 to 36 hours, fever, chills, nausea, weakness, and joint pain may result from the bite. The bite will also produce a blister surrounded by a swollen area. The venom kills the skin tissue, which gradually sloughs away until medical attention is sought.



Recluse spider (Genus *Loxosceles*).

Widow Spiders

There are four species of widow spiders in Texas. Their color varies from brown to black, but all have a marking consisting of two united triangles that can be red, yellow or orange in color. This hourglass marking is found on the underside of their abdomen. The females are 1 ½ inches in length and are the dangerous ones. They have eight eyes in

two rows, which is a common eye pattern for spiders. They usually live in protected areas around houses and may live in garages, basements, furniture, shrubbery, rain spouts, gas and electric meters and in other undisturbed areas.

The widow's bite may leave a swollen area with two red spots in the middle. The pain usually becomes worse, causing high temperatures, tremors, nausea, vomiting, leg cramps, perspiration, loss of muscle tone and rise in blood pressure and even death. Death results in less than 5% of the people bitten by a widow spider.



Widow spiders (Genus Latrodectus).

Other Common Spiders:

Tarantulas

These are large, hairy spiders that vary in color from brown to black. Adults are usually more than 3 inches in length. They tend to spend the day in hidden areas or under rocks and hunt at night feeding on crickets, caterpillars, and other insects. Since they are spiders, they can bite; however, their toxin is not considered harmful to most people. Also their hairs can penetrate the skin, which causes irritation.



A tarantula, *Aphonopelma* sp. (Araneae: Theraphosidae). Photo by John Jackman, Professor and Extension Entomologist, Texas A&M University.

Wolf Spiders

These spiders vary in color from brown to black and some have longitudinal stripes running along their bodies. Wolf spiders are large and can be seen at night under lights. They frequently enter homes and buildings, but their toxin is not considered harmful to humans.



Wolf Spider. Photo by John A. Jackman, Professor and Extension Entomologist, Texas A&M University.

Southern House Spider

These spiders sometimes are confused with recluse spiders, but they are larger than recluse spiders. Also they are dark brown in color, have eight eyes in one cluster, and lack the violin marking. These spiders are most commonly found in old barns and in undisturbed areas within human structures. Their toxin is considered harmless.

Some Control Options for Spiders

Non-Chemical Controls:

Seal cracks using caulk, weather stripping, and screens to prevent spider entry into buildings. Make sure that all stored boxes are taped and sealed to prevent spiders from entering. Also, vacuum webs throughout homes, since some spiders lay their eggs within the webs, the vacuuming will prevent these eggs from hatching.

Chemical Controls:

Only use products labeled for spider control or in areas where spiders are found. These products can contain such chemicals as permethrin, deltamethrin, or bifenthrin. Outside spray or dust under roof eaves, porches, and window ledges. Inside spray around windows, door frames, baseboards and in attics and other places of storage. Some spiders are hard to control, so it is best to contact a pest control professional.

Mention of commercial products is for educational purposes only and does not represent endorsement by Texas AgriLife Extension or The Texas A&M University System. Insecticide label registrations are subject to change, and changes may have occurred since this publication was printed. The pesticide user is always responsible for applying products in accordance with label directions. Always read and carefully follow the instructions on the container label.