

Whiteflies

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Whiteflies are a group of true bugs more closely related to aphids than to flies. Large populations of whiteflies can build quickly on host plants, feeding on their sap and making them look unsightly (Figure 1). While recognized as a major cosmopolitan pest in greenhouses, whiteflies also infest a wide range of trees and shrubs in the landscape. Common hosts include ash, oak, maple, sweetgum, dogwood, holly, fig, azalea and redbud.

Description and Life Cycle

Adult whiteflies are small, winged insects (Figure 2). They have a yellow body and often have white wings covered in a waxy, powdery substance. Mated females lay eggs on the underside of leaves. Eggs are oval and usually laid in a circular pattern. Many species produce hundreds of eggs per female. The first immature stage, or crawlers, emerge from eggs and move to find a spot to feed. Once they settle to feed, they become immobile and continue to develop by molting (shedding their outer skin) until they pupate and eventually emerge as adults from their pupal casings.

Figure 2: Adult whitefly



Figure 1: Adult whiteflies on the undersides of gardenia leaves and sooty mold on the upper surfaces



The time to complete development varies by species but commonly only takes 2-3 weeks. Whiteflies can produce many overlapping generations per year if conditions are favorable i.e., warm temperatures, availability of host plants and lack of natural enemies. These large, rapidly growing populations can cause substantial damage to infested plants in a short period of time.

Damage

Whiteflies have piercing-sucking mouthparts that they insert into the underside of leaves. Feeding can cause stippling damage, foliage yellowing (Figure 3), silvering, drying and defoliation (Figure 4). Most species prefer to feed on new growth, so fertilization during outbreaks can exacerbate pest pressure. Also, whiteflies excrete a sticky substance called “honeydew,” a waste product that a fungus (sooty mold) grows on (Figure 1). This fungus does not infect the plant, but it can disrupt the light-capturing process of photosynthesis and gives the plant a blackened appearance.

Figure 3: Foliage yellowing due to whitefly feeding on palo blanco (*Mariosousa willardiana*) and a whitefly pupal case



Management

Management of whiteflies is difficult because several generations often overlap. Adults are less susceptible to control measures so multiple interventions may be necessary to manage immature whiteflies across these generations. Natural enemies in the landscape can help suppress whitefly populations; however, effective therapeutic products are available to help manage pest outbreaks. It may be necessary to monitor populations over time while applying both short and long term control tactics. Please contact your Bartlett Arborist Representative to learn about management strategies.

Figure 4: Ficus plants exhibiting defoliation caused by an infestation of ficus whitefly (*Singhiella simplex*)



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