RESEARCH LABORATORY TECHNICAL REPORT

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Aphids

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Aphids are a large group of small, soft-bodied insects (Figure 1) with a modified, needle-like mouthpart (called a "stylet") that they use to withdraw fluids from vascular tissues in stems, leaves and sometimes roots. Aphids are a diverse group of insects with complex life cycles, a large number of potential plant hosts, and a variety of tactics for feeding. Many aphids will secrete saliva into the plant that contain substances to prevent the plant from sealing off the vascular tissue from the aphid. Other species form galls that protect the insect from predators. Some aphids have a wide range of hosts while others only have a few.

Damage

Small to moderate populations of aphids often result in little to no visible symptoms on trees. Large and dense populations of aphids can become problematic. Aphid damage can be quite variable and include off-color or yellow foliage, twisted and curled leaves, gall formation, stunted shoots and canopy dieback. Aphids can also produce large quantities of a sticky substance called "honeydew" that can be attractive to ants, flies, hornets, and yellow jackets and ruin the finish on cars, patio furniture, and other objects beneath infested trees. Honeydew facilitates growth of a black sooty mold fungus that can become unsightly (Figure 2). Aphids can also transmit plant diseases that can severely impact tree health.

Management

Few cultural practices are available to help with aphid infestations on trees and shrubs. Frequent monitoring can go a long way in identifying potential aphid issues before they become problematic. Proper soil management and fertilization can also aid in preventing aphid problems as excessive nitrogen fertilization can promote aphid outbreaks. Aphids can be managed by natural enemies such as lady beetles, green lacewings (Figure 2), and predatory midges; thus, biocontrol techniques can be effective as part of an integrated pest management program.

Figure 1: Winged adult crape myrtle aphid

Figure 2: Sooty mold fungus growing on honeydew (left); Eggs of lacewing, a natural enemy of aphids, suspended on leaf underside (right)

Therapeutic products are also available for aphid management and are typically very effective. Please contact your Bartlett Arborist Representative to learn about management strategies.