RESEARCH LABORATORY TECHNICAL REPORT

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Thrips

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Thrips (order Thysanoptera) are tiny insects that are most abundant in temperate and tropical climates. There are over 6,000 species of thrips; however, few species are serious pests capable of causing considerable damage, and some are even considered beneficial. Pest thrips populations can build up rapidly on many plants in urban landscapes causing severe damage to developing leaves, flowers, buds, and/or fruit. Host range varies by species with specialists attacking a small number of hosts and generalists feeding on hosts in dozens of plant families.

Description

Thrips are generally between 1.5 to 3.0 mm in length. Given their small size, thrips can be hard to spot, and even harder to identify with the naked eye (Figure 1). Coloration varies by species with individuals having various shades of yellow, brown, and black. Juvenile thrips are slender bodied and often pale in coloration (Figure 2). Adults typically have darker coloration and exhibit four fringed wings. Their wings are not particularly suited for flight, but they do allow thrips to cover long distances when aided by wind.

Figure 2: Juvenile (left) and adult (right) chilli thrips (*Scirtothrips dorsalis*)

Figure 1: Adult thrips on a leaf with extensive feeding damage

Pest species can be found in both warm and cold climates with some species persisting year-round under favorable conditions. Many of the most damaging thrips are exotic species that were accidently introduced outside of their native range.

Life Cycle and Damage

Thrips generally pass through four immature stages before reaching adulthood. The larval stages typically only last a few days each. Following this period, many thrips drop to the soil to complete maturation into the adult form below ground.

Species with rapid development times may have a dozen or more overlapping generations per year. This can pose a problem for management because populations can rapidly build up and spread in a landscape.

Plant-feeding species tend to accumulate within flowers or on the newest foliage. Given this preference for tender new growth, fertilization during outbreaks can exacerbate pest pressure. Thrips feeding often results in scarring, discoloration, and malformed growth of affected plant parts (Figures 3 and 4). Large, rapidly growing populations can cause significant damage in a short amount of time.

Figure 3: Leaf discoloration on rhododendron

Figure 4: Leaf scarring on hydrangea

Management

Approaches to management vary with thrips species and the affected host. Many therapeutic products are available and effective against thrips. It may be necessary to monitor populations over time while applying both short- and long-term control tactics. Control of thrips often requires multiple interventions due to rapid population growth and the overlapping of generations. Biological control can be effective for suppression but is less practical during outbreaks.

Implementing host specific cultural practices such as pruning, mulching, and irrigation can reduce stress and improve plant resiliency. Please contact your Bartlett Arborist Representative to learn about management strategies.

References

[1] L. Stannard, "Thrips", Britannica Encyclopedia, 2024. Accessed on October, 30, 2024 [Online]. Available: https://www.britannica.com/animal/thrips

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