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Syrphid Fly

Large numbers of syrphid, or flower, flies are being seen. They are small flies, usually 1/4 inch or shorter, with yellow and black or brown bands on the abdomen. They hover around your arms when you have been perspiring and land to lap up the sweat. This hovering also gives them the name of hover flies. They are also attracted to electricity, explaining their sitting on the reciprocating saw in the photo. They are called flower flies because they are commonly found on flowers, pollinating as they move from flower to flower. They are called syrphid flies because they are in the fly family Syrphidae.

Illinois sweat bees are 1/4-inch-long, metallic green, brown, or black bees that are also be attracted to perspiration. The only yellow and black stinging insects commonly attracted to perspiration are yellowjackets. These wasps are about ½-inch long and easily recognized by most people. Although commonly referred to as sweat bees, syrphid flies cannot sting.

While they are feeding on perspiration, their mouthparts can usually be felt; and on sensitive areas, a person may feel a slight pinch. These insects have one pair of wings instead of the two pairs characteristic of bees and wasps. Like many people in the Midwest, I grew up being told that these insects were sweat bees. Only when I went to college did I learn the difference.

Syrphid flies are a diverse group, with the larvae being primarily feeders on dead organic matter and predators of aphids. The white, green, or gray, legless larvae may have become abundant, feeding on aphids and other small, soft-bodied, slow-moving insects.

In any case, the adult insects are common around flowers and in shady areas. Control efforts are not recommended because these flies are, at the least, pollinators or non-pests and, at the most beneficial, useful in controlling aphids. Insecticide application is problematic because hovering flies easily avoid sprays aimed at them; large-surface spraying of insecticides is not recommended, and the effects are very short-lived. Put up with the flies. They will probably decline naturally within a week or two. (*Phil Nixon*)

Chinch Bug

Chinch bug damage is being found throughout Illinois. Numbers of chinch bugs build under drier conditions, allowing bugs to survive which would be killed by fungal disease under higher rainfall. Thatchy turf allows the bugs to escape fungus attack by living in the thatch, not coming into contact with the soil where the fungus is living.

Chinch bug is attacked by a naturally occurring fungal pathogen, *Beauvaria bassiana*. This causes all stages, eggs, nymphs, and adults, to be killed and covered with fine white fungal strands. In Illinois, we typically get enough rainfall throughout the season that the fungus controls the chinch bugs for us, free of charge.

The other factor in chinch bug abundance is nitrogen. Chinch bugs, along with many other sap-sucking insects, are healthier and reproduce more on plants containing high levels of nitrogen. Excess nitrogen fertilization results in many more chinch bugs than would normally be present. In addition, excess nitrogen tends to result in increased thatch.

Damaged turf is light tan in color, looking like straw. Adjoining lawns that have not received as much nitrogen fertilization typically show no damage. To find the chinch bugs, push the grass blades to the side with your fingers to reveal the crowns of the grass plants, and the bugs will be evident at the base of the shoots. Another way to scout for chinch bugs is to push a coffee can or similar can down into the turf and fill it with water. The bugs will pop to the water surface and accumulate around the edge of the can. The threshold for treatment is a solid line of chinch bugs where the water meets the can.

Two species of chinch bugs attack Illinois turfgrass. Hairy chinch bugs are found in northern Illinois, where they attack Kentucky bluegrass, fine fescues, perennial ryegrass, bentgrass, and zoysiagrass. Common chinch bug occurs in central and southern Illinois and feeds on the same grass species, as well as field grain crops such as wheat, corn, and sorghum. Both are similar in appearance and habits.

Adult chinch bugs overwinter in the crowns of grasses. They become active in the spring. They are about 1/8-inch long, long oval-shaped, and are black and white, due to wing coloration. Some adults have short wings and appear black. Nymphs are bright orange with a white band, turning to black as they go through five instars (stages). First-instar nymphs are about 1/32-inch long and grow up to be 1/8-inch long fifth-instar nymphs.

Control chinch bugs with a spray of bifenthrin (Onyx, Talstar), deltamethrin (DeltaGard), lambda-cyhalothrin (Scimitar), or trichlorfon (Dylox). (*Phil Nixon*)

Fall Webworm

Fall webworm is numerous throughout the state, particularly southern and central Illinois. It lives as a group of caterpillars that spin a communal silk web. This silk nest typically encloses the end of the branch and associated leaves. The caterpillars remain in the webbing, feeding on these enclosed leaves. When the leaves inside the web are eaten, the silk webbing is expanded to include more leaves. Webs of mature caterpillars are typically 2 to 3 feet long.

This insect has an extremely large host range, being found on almost any deciduous tree and some shrubs. It is most commonly found in Illinois landscapes on crabapple, walnut, hickory, pecan, redbud, sweet gum, maple, and oak. Loss of leaves from caterpillar feeding at this time of year has little impact on tree health as long as their loss does not trigger new bud break. If damage is limited to a few branches, new leaf production is unlikely to occur. Control at this time

of year is primarily recommended to reduce aesthetic damage so fall webworm colonies at the tops of tall trees and in other less obvious locations can be ignored, depending on client preferences. Pruning off the branch with its webbing and disposing of it is an effective control. Many insecticides are effective in controlling fall webworm. *Bacillus thuringiensis kurstaki* (Dipel, Thuricide, others), carbaryl (Sevin), pyrethroids, and other labeled insecticides are effective. However, the webbing is waterproof, making it spray resistant. Enough spray pressure is needed to break into the web and get the insecticide onto the leaves within the nest. Nest webs are typically expanded only every week or so, so insecticide deposited on leaves outside the webs is likely to break down before the caterpillars expand the webbing over treated leaves. (*Phil Nixon*)

Mimosa Webworm

Mimosa webworm damage is becoming apparent on honey locust throughout the state and on silk tree or mimosa in southern Illinois. The second generation of this insect webs several compound leaves together and then window-feeds on the leaves, causing the leaves to turn brown. This damage is obvious when the webworm is numerous. Refer to Issue 6, the June 5, 2017 issue of this newsletter for additional information on life cycle and management. (*Phil Nixon*)

Powdery Mildew on Herbaceous Ornamentals

As the season progresses we start to see powdery mildew appear on herbaceous ornamental plants. Common hosts include phlox, peony, bee balm, zinnia, and many more. There are over a thousand species of fungi that cause powdery mildews on a wide range of hosts. Most are fairly host specific.

Powdery mildews that appear in mid- to late- summer are rarely lethal to their hosts. However, repeated infections over the years can weaken hosts, and the disease reduces the plants' ornamental value. The severity of the disease is dependent on numerous factors, including the variety or cultivar of the host, the timing of the initial infection, and environmental conditions affecting the host. Powdery mildews are favored by high humidity, low air movement, and warm or hot days followed by cool nights. Powdery mildews are usually more severe on overcrowded plants growing in shade.

Infection is usually quite obvious. Initially, small, white, diffuse patches appear on infected tissue. Chlorotic (yellow) spots may also appear, and young leaves may become distorted. Infection is often seen on leaves, but the pathogen can infect buds, flowers, and stems. If environmental conditions favor disease development, the white patches will expand and coalesce. Heavy infections result in leaves and stems completely covered in a grey/white powdery substance. Near the end of the season small black spots the size of a poppy seed may be visible on infected tissue. These are the structures where spores will survive the winter, only to start the infection cycle again next spring.

Management consists of selecting resistant cultivars or varieties when possible. Plant catalogs will often note if a variety is resistant to powdery mildew.

Varieties of some extremely susceptible hosts have been trialed to identify good potential resistance. Two examples include trials performed at the Chicago Botanic Garden observing resistance to powdery mildew on bee balm and phlox, available here: https://www.chicagobotanic.org/downloads/planteval_notes/no12_monarda.pdf (bee balm) and https://www.chicagobotanic.org/downloads/planteval_notes/no35_phloxpaniculata.pdf (phlox).

Sanitation is an important step to controlling powdery mildew. Fallen leaves, spent blossoms, and infected tissue should be pruned during dry weather and removed from the garden. In fall, remove the above-ground portions of plants remaining in the landscape to reduce the amount of the pathogen overwintering in plant residue. While this pathogen can still spread via wind, avoiding early-season infections is important as these tend to be more severe.

Space plants appropriately when they are installed, and try to avoid overly shaded locations. Maintain plant vitality by mulching the soil around the plants, watering regularly during dry periods during the growing season, and fertilizing appropriately.

Fungicides are available to protect new growth from infection. However, these sprays need to begin at the first signs of powdery mildew and be applied every 7-14 days (at labeled interval) throughout the growing season to continue to provide protection. Fungicides are often not warranted unless disease pressure is high and the host is particularly susceptible. Fungicide choice is going to be dependent on host. Always follow the label of any pesticide you choose to apply. (*Diane Plewa*)