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## INSECTS

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### Tuliptree Aphid

Tuliptree aphids are out in full force attacking their favorite host, tuliptree or yellow poplar, *Liriodendron tulipifera*. These insects are found throughout Illinois from mid-June to October.

Tuliptree aphids are generally light green to pink. They feed on the undersides of leaves where they cause leaf yellowing. Heavy infestations can cause leaves to turn brown and drop prematurely. They are more of a problem on trees that are under some type of stress, such as drought, compacted soil, or construction damage. The major concern with tuliptree aphid is the large amount of honeydew produced from their feeding. Honeydew dropping from trees can create a sticky mess on sidewalks and on cars parked beneath infested trees. In addition, honeydew can attract bees and stinging wasps. Tuliptree aphids overwinter as eggs in the bark crevices of trees. In the spring, eggs hatch into young aphids. Winged and wingless forms appear in June and July.

Management involves keeping trees healthy through proper watering and fertilization practices. Heavy rains throughout the summer wash aphids off trees. High-volume sprays of water may also reduce aphid numbers. Low populations of tuliptree aphid can be managed with foliar applications of insecticidal soap. These applications also help preserve natural enemies such as parasitic wasps and predators. Because tuliptree aphids are generally exposed while feeding, they are subject to attack by many parasitic wasps, which turn the aphids into brown mummies. Predators such as the two-spotted ladybird beetle also feed on tuliptree aphids. Heavy tuliptree aphid populations that are causing aesthetic injury can be managed with foliar sprays of either insecticidal soap or acephate (Orthene). (Raymond Cloyd)

### Japanese Beetle

Japanese beetles are out in force throughout Illinois, and large numbers are being reported in the southwestern, central, and northern parts of the state. Feeding damage is heaviest at the top of the plant. There the leaves may be lacelike from feeding holes, or brown because the upper surface and interior have been eaten away, leaving the lower surface, which dries and turns brown. Remember that repeated insecticide treatments are needed to minimize damage, but damage rarely seriously harms the health of attacked plants.

Control beetles on shrubs and small trees near main building entrances and other important landscape locations where the damage would be obvious. Beetles damaging taller trees and in less obvious areas of the landscape can usually be ignored. Research has shown that using Japanese beetle traps actually results in more damage than not using them. These traps attract beetles from other areas, but many beetles are not attracted all the way into the traps.

Controlling the larval form as white grubs feeding on turf roots does not significantly reduce the number of adult beetles in the landscape the following year. Adult beetles are very good fliers, and they easily fly in from other areas. Only treat turf areas for grubs if conditions are right for damage to occur from the larval feeding. (Phil Nixon and staff at The Morton Arboretum)

### Bluegrass Webworm

Bluegrass webworms have been noticed in large numbers in scattered areas of central Illinois. This webworm is most noticeable on golf courses because of its ability to damage bentgrass, as well as bluegrass, rye, and fine fescues. Damage appears on bentgrass greens and fairways as roundish brown areas several inches in diameter. Damage is not usually as obvious on the other hosts, probably due to higher mowing. The adult moths are smaller than other webworms; they are only about 1/2 inch long.

The wings of these tan moths do not curl into a tube shape when they are at rest as the wings of sod webworms do.

Scout for bluegrass webworms as you would for other turf caterpillars. Mix a teaspoon of 5 percent pyrethrin or a tablespoon of dishwashing detergent in a gallon of water and distribute it over a square foot of turf with a watering can or sprayer. Larvae should appear on the turf surface in about 30 seconds. Keep your eye on the area because caterpillars burrow back into the thatch after a short time. Bluegrass webworms are slender, light-colored caterpillars that may appear greenish because their food can be seen in their guts. Unlike greater sod webworms, they are not covered with brown spots. Three or more caterpillars per square foot are likely to cause damage.

Bluegrass webworms are easily controlled with a variety of insecticides, including bifenthrin (Talstar), carbaryl (Sevin), chlorpyrifos (Dursban), halofenozide (Mach 2), spinosad (Conserve), and trichlorfon (Dylox, Proxol). These insecticides are also used to control cutworms, so greens treated for cutworms are unlikely to get bluegrass webworms. Webworms are also controlled with entomophagous nematodes including *Steinernema carpocapsae* and *Heterorhabditis bacteriophora*. (Phil Nixon and Roscoe Randell)

### Peach Tree Borer

Peach tree borers are increasing in number in pheromone traps in northern Illinois. When the number of borers peaks, wait two weeks and spray purpleleaf plum, flowering cherry, mountainash, and other susceptible trees with chlorpyrifos (Dursban). Spraying at this time in southern Illinois should be effective. It is still a little early to treat in central and northern Illinois. (Phil Nixon and staff at The Morton Arboretum)

### Annual White Grub

Annual white grub adults were first reported in central Illinois on June 30. This is a couple of days earlier than their usual appearance on July 2, but generally they are right on time. These tan, 1/2-inch-long June beetles are present for about two weeks. During this time, they lay eggs that produce white grubs that feed on turf roots in late summer and fall. Japanese beetles also apparently lay most of their eggs during this same time period.

Observe the heaviness of flight of both of these beetles and also the appearance of unwatered turf

during this time. Flight of Japanese beetles can be assessed by how many are feeding on the leaves of plants during the day. Scout for annual white grub adults after dark, particularly between 10:30 and 11 p.m. At this time, both the northern and southern masked chafer species of annual white grub are likely to be active. Shining car headlights or a flashlight across the surface of the turf will reveal the beetles flying low over the turf. Using these methods, you can get an idea of the number of beetles present.

If unwatered turf is dormant and somewhat brownish, egg laying will be concentrated in irrigated turf. If the unwatered turf has received enough rainfall so that it is still green and lush, eggs will be laid in both irrigated and unirrigated turf. In this case, the eggs will be so spread out that damage is unlikely unless there is a heavy flight of beetles.

Dormant unwatered turf and/or a heavy beetle flight tells you that it is proper to apply imidicloprid (Merit, Grubex) or halofenozide (Mach 2) to irrigated turf before the last part of July. If unwatered turf is green and lush, as it appears at this time in east-central Illinois, it is usually wiser to wait until early August when the grub eggs have hatched. Then, scout and spot-treat infested areas with a shorter-lasting insecticide. (Phil Nixon)

## PLANT DISEASE \_\_\_\_\_

### Verticillium Wilt

This fungal disease causes vascular tissue to be plugged, effectively blocking the movement of water in the plant and causing foliage to wilt and branches or plants to die. Maple, smoke tree, redbud, magnolia, and ash are some of the more common trees affected in Illinois, but more than 300 plant species are susceptible to this fungal disease. The list includes annuals, perennials, trees, shrubs, fruits, and vegetables. *Report on Plant Disease* No. 1010 discusses Verticillium wilt and contains lists of plants that have been reported as hosts of the disease.

Symptoms of Verticillium wilt include wilting and yellowing, and death of leaves, branches, or entire plants. Chronic symptoms may include stunted and chlorotic foliage, leaf scorch, slow growth, abnormally heavy seed crops, and dieback of shoots and branches. Vascular tissue is discolored—usually brown, black, or light to dark green. Only ash does not produce some type of vascular discoloration. In terms of diagnosis and confirmation of the disease,

vascular discoloration is the most significant symptom. With the exception of ash, samples taken for laboratory culturing must contain this symptom for valid results. Tissue must be alive but showing active wilting. The ideal branch section is thumb thickness, 8 to 10 inches long, alive, and contains vascular discoloration. This fungus is relatively slow growing. Fungal isolates that develop in laboratory cultures usually grow for about seven days before the fungus can be identified positively.

Most plant species do not readily recover from this disease. In fact, it is probably more typical for infected plants to die. Still, some fast-growing trees have been able to “wall off” the fungus through compartmentalization and continue to grow well for many years. I have seen this happen on a few maples and ash. There are no chemical cures for the disease, and resistant varieties are available for only a few plant species, such as strawberry and tomato.

Management recommendations include removing dead wood, watering trees in periods of drought lasting two weeks, and fertilizing in the fall to improve tree vitality. Do not grow susceptible crops on land where crops that proved susceptible to *Verticillium* wilt were grown previously. A rotation of five years or more for vegetables and flowers may help reduce the amount of inoculum in the soil. The *Verticillium* fungus is soilborne and can survive for five years or longer in the soil. (Nancy Pataky)

### Phytophthora Root Rot of Rhododendron

It has been said that the two most limiting factors to healthy rhododendron growth in Illinois are clay soils and *Phytophthora* root rot. Actually, the two usually go hand in hand. *Phytophthora* is an oomycete fungus, meaning that it is a water mold, requiring free moisture in order to infect. The *Phytophthora* species that cause root rot of rhododendron are soilborne. As you might guess, the abundantly wet spring and early summer weather we have experienced this year have favored the development of this fungus. Because clay soils hold moisture longer than other soil types, plants growing in clay soils provide more opportunities for *Phytophthora* to infect. Plants that have experienced stress are more susceptible to infection.

Symptoms of root rot include chlorosis of leaves and a downward roll of the leaves parallel to the midrib. Leaves have the appearance of a cigar roll. They may wilt but usually remain attached to the stems for as long as two weeks after plant death. The roots have a soft rot, usually brown or black. Plants

may die in a very short time, with as little as two weeks from the onset of symptoms to plant death. They do not die overnight.

Although there is some resistance available to this root rot, most rhododendron cultivars are susceptible. Established plants diagnosed with *Phytophthora* root rot can be treated with a fungicide as a drench around plants to saturate the soil. Repeat applications at 3- to 12-week intervals in the spring and fall. With some fungicides, granules can be blended into the soil before planting. Refer to the *Illinois Homeowners' Guide to Pest Management* or the *Illinois Commercial Landscape & Turfgrass Pest Management Handbook* for chemical options. Read labels carefully for rates, warnings, restrictions, and timing.

To avoid this problem in the future, choose your planting site for rhododendrons carefully. The site must be well drained, protected, and have an acidic soil pH. Choose your cultivar to suit your site needs, but try to find one with resistance to *Phytophthora*, if possible. For more information, consult *Dwarf Shrubs for the Midwest* by Keith and Giles, University of Illinois Special Publication 60. *Phytophthora* root rot of rhododendrons is also discussed in *Report on Plant Disease* No. 664. (Nancy Pataky)

### Dollar Spot of Turfgrasses

Dollar spot is a fungal disease that infects creeping bentgrass, Kentucky bluegrass, annual bluegrass, and fine-leaf fescues. Even Bermuda grass and zoysia grasses can become infected. The disease appears as roundish brown spots in the lawn. Initially, spots are the size of a silver dollar (hence, its name); later, they may be as large as 4 to 8 inches in diameter. You will not see larger ones unless spots merge. The affected area eventually turns straw-colored and appears sunken in the lawn.

A quick and rather good diagnostic guide involves the appearance of the leaf lesions. Look for these on plants at the edge of the sunken areas. The lesions girdle the blade, may be up to 1 inch long, and are usually bleached white to light tan, with a dark-brown, reddish brown, or purplish border. When dew is present on the blades of grass on overcast days or early in the morning, a white cobwebby growth of mycelia may be seen on infected plants.

This disease appears in warm (60 to 85°F), wet, and humid weather, especially in lawns that are low in nitrogen. Control measures include maintaining balanced fertility, avoiding late-afternoon or evening watering, providing good air circulation in the area by

pruning surrounding plants, providing adequate surface drainage, mowing at the maximal height, and using resistant cultivars of grass. Chemical options can be used on a preventive basis but are generally used on golf courses. Refer to the *Illinois Homeowners' Guide to Pest Management Handbook* or the *Illinois Commercial Landscape & Turfgrass Pest Management Handbook* for chemical options. Also, refer to *Report on Plant Disease* No. 407 for details on the disease, pathogen, and management options. (Nancy Pataky)

### Disease Update

There has been a steady stream of various plant diseases at the Plant Clinic this summer. One of the more common diseases of ornamentals in the last two weeks includes **oak leaf blister**, discussed in issue No. 4 of this newsletter. We are seeing this on many oaks, usually with just scattered puckered lesions on the leaves, and not harming overall tree growth. **Oak wilt** (issue No. 7) continues to rear its ugly head in a slow but steady stream of samples. Don't forget to send oak wilt samples on ice if at all possible; this process will likely save you resampling time and energy. We have seen a **dieback of spruce** branch tips that is not associated with any pathogen. It is not caused by *Cytospora* canker or any needle cast that we can find. It has occurred particularly on dwarf

Alberta spruce and may be an environmental, site, or root stress problem. **Dutch elm disease** (issue No. 8) has been very common this year from both municipalities and homeowners. Many bedding plants have been found to be infected with **Rhizoctonia root and stem rot** (issue No. 8). (Nancy Pataky)

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Home, Yard & Garden Pest Newsletter is prepared by Extension specialists from the University of Illinois at Urbana-Champaign and the Illinois Natural History Survey. Information for this newsletter is gathered with the help of staff members, Extension field staff, and others. Karel Jacobs and Donna Danielson of The Morton Arboretum also provide information and articles.

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