COOPERATIVE EXTENSION SERVICE
HOME, YARD & GARDEN PEST NEWSLETTER
College of Agricultural, Consumer and Environmental Sciences, University of Illinois at Urbana - Champaign
Illinois Natural History Survey, Champaign

No. 10 • July 1, 1998

Insects

Scouting Report

Lacebugs are present on sycamores and oaks. These insects cause whitish stippling on the upper leaf surface and black specks on the lower surface. Fully grown lacebugs are about 1/8 inch long and whitish to clear, with brown to black markings. The even smaller nymphs are somewhat clear with blackish markings. Both nymphs and adults will be on the leaf undersides next to the veins. The damage rarely warrants control.

Spirea aphids are present on the stem tips of spirea. The same aphid commonly attacks crabapple branch tips and associated leaves, so be watchful for them. On spirea, these aphids may build to huge numbers. They can be controlled with a variety of synthetic pyrethroids and other insecticides. Spraying with insecticidal soap or summer spray oil will greatly reduce their numbers and be less damaging to natural enemies that are present. On crabapple, they usually do not need to be controlled unless the sticky honeydew that they produce becomes a problem on parked cars or sidewalks.

Peach tree borer moths are being caught in increasing numbers at The Morton Arboretum. To protect flowering cherry and purpleleaf plum, we recommend spraying the base of the trunk with chlorpyrifos (Dursban) or lindane about two weeks after peak moth trap catches.

Solitary oak leafminer damage is appearing in northern Illinois. This insect is most noticeable in northern Illinois, where it causes aesthetic damage to burr, white, and other oaks. Control is achieved by spraying the foliage with acephate (Orthene) when damage first appears.

Periodical cicada damage is very noticeable through much of the southern two-thirds of Illinois. On oaks and many other tree species, the outer six to eight leaves of scattered twigs have turned brown due to cicada eggs laid in the stems. There is little to be done or that could have been done to prevent this damage. The leaves or branch tips will soon drop. Next year, the tips of the branches will have more twigs and leaves due to lateral bud break, but there should be no lasting ill effect on the tree. (*Phil Nixon; staff at The Morton Arboretum*)

Annual White Grubs

Annual white grub adults are flying throughout Illinois. Adult northern masked chafer has been picked up in central Illinois, and adult southern masked chafer has been found at The Morton Arboretum in northern Illinois. Effects of the early spring are still with us, because these insects usually appear about July 2 in central Illinois and July 8 in northern Illinois. This makes them one week early in central Illinois and two weeks early in northern Illinois.

These June beetles are about 1/2 inch long and tan with black heads. They hide in the thatch during the day, emerging in the evening to mate and lay eggs. These insects do not feed, so they run out of stored food and die after about two weeks. After mating, females tunnel into the soil to lay their eggs. The resulting larvae are some of the white grubs that cause severe turf damage in the fall. Getting a rough idea of adult numbers helps one decide whether an insecticide treatment to prevent damage will be needed.

The two species are out at different hours of the night. Southern masked chafer is more active between 9 and 11 p.m., whereas northern masked chafer is more active from midnight to 4 a.m. Between 10:30 and 11:00 p.m. is a good time to check on their numbers, because some of each species will be active at that time. Shining a light, such as car headlights, across the turf will reveal them flying over the turf. They are also strongly attracted to lights at night, and can be monitored by checking porch and street lights. (*Phil Nixon*)

Japanese Beetles

Japanese beetles also were present during the last full week of June in central Illinois and at The Morton Arboretum in northern Illinois. We usually expect them to appear in early July, so they are somewhat

early. These beetles tunnel into the soil to lay their eggs, which will hatch into white grubs. These white grubs will eat turf roots and cause turf dieback in the fall. Japanese beetles appear to need damper soil than masked chafers to survive.

Unlike masked chafers, Japanese beetles feed as adults, typically being present for about six weeks. They feed on the upper leaf surface, eating through the epidermis and mesophyll, leaving the lower leaf surface (epidermis) intact. This lower surface is initially light-colored, but soon dries and turns brown. Japanese beetles will feed on more than 100 plants, with favorites including smartweed, willow, linden, rose, buckeye, birch, crabapple, apple, cherry, hazelnut, currant, grape, and raspberry.

They tend to feed on the upper parts of plants, causing the upper third or more of favored trees to be heavily damaged and eventually defoliated as damaged leaves drop. This tendency to feed at the top of trees allows one to accept damage on tall trees without it being very obvious to the general public.

Traps are available that will attract male beetles to a pheromone and female beetles to a floral scent. Research has shown that these will attract beetles from a considerable distance outside the typical residential landscape, but many of these attracted beetles will not be caught in the trap. This results in more beetle damage in areas that have traps than in areas that do not.

Adult Japanese beetles are difficult to control. Carbaryl (sold as Sevin) sprayed on foliage will provide protection for about a week. Synthetic pyrethroids, such as bifenthrin (Talstar), cyfluthrin (Tempo), lambda-cyhalothrin (Scimitar), and permethrin (Astro), will provide control for ten days to two weeks. Azadirachtin is marketed to homeowners as a Japanese beetle repellent. However, casual tests by the author and others have not shown dramatic effects.

The author and others have found that hand-picking the beetles every couple of days is effective. When disturbed, the beetles fold their legs and drop to the ground. Hold a can or jar containing rubbing alcohol or water with dishwashing detergent below the foliage; the beetles will drop into the container and be killed. Although this method is too labor intensive for commercial situations, home gardeners may find it useful.

Because Japanese beetle adults feed on many plant species and require multiple treatments for effective control, we recommend that professional landscapers and others avoid spraying most of the landscape. Although Japanese beetles cause obvious aesthetic damage, they are unlikely to cause dieback or death to healthy ornamentals. We suggest that you select for multiple treatments those susceptible plants that are focal points of the landscape, such as roses and crabapples at building front entrances, or small lindens in front yards. Large trees and ornamentals along back property lines can usually be left untreated. Of course, the decision of whether or not to treat a plant requires consultation with the client, who may be disinclined to pay for multiple sprayings of large trees and ornamentals in less significant parts of the landscape. (*Phil Nixon*)

Plant Disease

Dutch Elm Disease

Dutch Elm Disease (DED) is caused by a fungal pathogen, *Ceratocystis ulmi*. The disease works much like Verticillium wilt and oak wilt (see issue no. 7), plugging vascular tissues and causing the foliage to wilt and die. Elms are the hosts of DED, and American elms are very susceptible. Although Chinese and Siberian elm are known to be more resistant, infection of these species can occur as well. Breeders have developed more resistant elms, available as Sapporo Autumn Gold, American Liberty, and Urban elms.

Watch for yellowing foliage, followed by wilting and browning. A single branch usually shows symptoms first, with rather rapid spread to adjacent branches and the entire tree. To help with diagnosis of this disease, look for vascular discoloration. As with oak wilt and Verticillium wilt, DED causes streaking of the sapwood. Peel back the bark of a symptomatic branch to reveal brown streaks in the otherwise tan outer sapwood. We generally select branches of about thumb thickness that have wilted leaves. Sometimes the streaking is more evident when a branch is viewed in cross-section: a ring of discoloration can be seen just under the bark. Since Verticillium wilt and Dothiorella wilt can also cause this streaking in elm, positive identification requires laboratory culturing of the fungus. Cut several six- to eight-inch sections from wilted but living branches that show definite streaking in the sapwood. These fresh wood sections should be 1/2 to one inch in diameter and can be sent in plastic or foil to the Plant Clinic for testing. Expect about seven days of lab time for the fungus to grow to the point where it can be positively identified. There is a $10 fee for this service.

Many people have the mistaken impression that this disease is a thing of the past, since there are now so few elms around. Not so! We receive many elm specimens at the Plant Clinic each year to be tested for the Dutch Elm Disease fungus. Unfortunately, we are still able to make many positive isolations.

For more information on DED, including control procedures, consult *Report on Plant Diseases* No. 647. A similar disease caused by a phytoplasma is discussed in RPD No. 660, *Elm Yellows or Phloem Necrosis and its Control* (also see *Elm Yellows* in issue no. 4). (*Nancy Pataky*)

Two Types of Tree Leaf Scorch

Most gardeners, nurserymen, and arborists are aware of noninfectious leaf scorch. Few are aware of an infectious leaf scorch caused by a xylem-inhabiting bacterium (xib).

The **noninfectious leaf scorch** has been common of late. It occurs whenever water cannot be translocated to the foliage rapidly enough to replace lost moisture. The causes vary and might include root injury, root rot, poor soil conditions, high winds, flooding, drought, transplant shock, and many other scenarios. A thorough discussion of this problem is given in *Report on Plant Diseases* No. 520. Symptoms generally include a necrosis of leaf edges and foliar tissue between the veins. Symptoms are most intense on the newest leaves. These areas are the last to receive water from the roots and the first to show a lack of uptake.

The infectious leaf scorch is called **bacterial leaf scorch** and is caused by a bacterium called *Xylella fastidiosa*. It takes its name from the fact that it is limited to the xylem; it cannot be cultured in traditional laboratories. Positive diagnosis relies on serological methods or specialized staining of the xylem tissues.

Bacterial scorch occurs mostly in the eastern and southern states but has been reported in Illinois and nearby states. The scorch occurs most commonly on elm, oak, sycamore, mulberry, and red maple. Look for symptoms that occur in early summer to midsummer and intensify in late summer. The symptoms spread within a tree from year to year, branch by branch. Unlike noninfectious scorch, bacterial scorch develops first on the oldest leaves and progresses toward the branch tip. Infected leaves often remain attached until fall.

If you have a tree showing a history of progressive scorching as described above, you may wish to seek laboratory help to test for the possibility of bacterial scorch. Call the Plant Clinic at (217) 333-0519 if you have a suspect tree. Staff can help with sampling and mailing advice. (*Nancy Pataky*)

Black Root Rot of Strawberry

This root-rot complex has been confirmed on three Plant Clinic samples this season. It is caused by several fungal pathogens that invade when plants are grown in tight clay or poorly drained soils. These sites are fairly easy to detect this year because of excessive rain in most parts of the state. Injury from environmental stress such as freezing, heaving, wind, etc. can predispose plants to infection.

Infected plants exhibit a lack of vigor and productivity. Eventually the plants die or become unproductive. Roots washed of soil are black instead of a healthy white. Although most strawberry roots in early summer are brown to black on the surface, these same roots should be alive and white internally. Wash roots of suspect plants and break the roots to look at the internal color. Laboratory isolations from affected roots provided several fungal pathogens, none of which could be identified as the sole cause of this decline. For this reason, a field diagnosis based on washed roots and observed conditions may be as useful as a laboratory diagnosis.

Many fungi have been implicated in this disease complex, but treating the fungi does not cure the problem. As long as the site stress is present, the problem will continue. Abandon areas that are infected with black root rot, or rotate to a nonhost crop. Establish a strawberry bed in a new site with loose soil that provides good drainage away from the root zone. Planting strawberries in clay or in low spots in the field will lead to chronic problems. (*Nancy Pataky*)

Blossom-End Rot and Sunscald

Blossom-end rot appears as necrotic areas at the blossom end of the maturing fruit. Tomato, pepper, summer squash, and other cucurbit crops may show this problem. Tomato fruit tips turn brown to black; the ends on peppers usually become light brown or tan.

Blossom-end rot is not caused by a pathogen, so it is not an infectious problem. It results from a calcium deficiency in the plant caused by large fluctuations in soil moisture. When soil moisture is limited, plant growth slows and nutrient uptake by the roots is reduced. If water becomes available again, from rain

or irrigation, the plant begins to grow rapidly but the uptake of calcium lags behind. In this way the rapidly expanding fruit tip does not have enough calcium available to develop properly, even though there is plenty of calcium in the soil.

The best method for controlling blossom-end rot is to maintain even and adequate levels of soil moisture. In such conditions, plants grow at an even rate and the nutrients stay in balance. Calcium-rich fertilizers show mixed results in controlling this problem.

Sunscald also causes necrotic areas on the fruit of tomato and pepper. The areas of the fruit that are exposed to the sun are susceptible; usual spots are on the shoulders of the fruit near the stem end. Sunscald often occurs when plants lose leaves from foliar diseases or from sudden pruning of the plant canopy.

Avoid sunscald by controlling diseases that cause premature defoliation. This would include the tomato leaf spots discussed in issue No. 9, the vascular wilt diseases, and bacterial canker. Grow tomato varieties that are resistant to Verticillium and Fusarium wilts. Plant pepper varieties that produce fruits that hang down and are covered by foliage. Minimize plant breakage during harvesting to avoid suddenly exposing the fruit to sunlight. (*Nancy Pataky*)

Home, Yard and 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.

Major authors are Phil Nixon, (217) 333-6650, and Fredric Miller, (708) 352-0109, entomologists; Nancy Pataky, plant pathologist, (217) 333-0519; and Rhonda Ferree, Tom Voigt, and David Williams, horticulturists, (217) 333-0350. Phil Nixon is the executive editor of the Home, Yard and Garden Pest Newsletter. *This newsletter is written by faculty in the Department of Natural Resources and Environmental Sciences and the Department of Crop Sciences. The newsletter is edited by Peggy Currid, typeset by Oneda VanDyke, and proofread by Kathy Robinson, all of Information Technology and Communication Services.*

CES Newsletter Service
University of Illinois
at Urbana-Champaign
69 Mumford Hall
1301 West Gregory Drive
Urbana IL 61801

Return Services Requested

College of Agricultural, Consumer and Environmental Sciences,
University of Illinois at Urbana-Champaign

State • County • Local Groups–U.S.D.A. Cooperating
The Cooperative Extension Service provides equal
opportunities in programs and employment.

Presorted First Class
U.S. Postage Paid
Permit #75
Champaign, IL