

No. 17 • August 20, 1997

This newsletter is issued weekly (biweekly in the early spring and late summer) to provide timely information on insect, weed, and plant disease pests of the home, yard, and garden. Current control procedures, application equipment and methods, safe storage and disposal of pesticides, and other topics of interest are discussed.

Biweekly Issues

This is the first of the late-season biweekly issues of *Home, Yard and Garden Pest Newsletter*. Three more biweekly issues will take us through the end of September. We will publish an issue in late October and a final issue with an index for the entire year in late November. (Phil Nixon)

HORTICULTURE

Water Your Landscape Plants

The rapid onset of unhealthy-looking landscape plants is cause for concern. Many landscape plants in Illinois are suffering from extremely dry weather. Symptoms include severe leaf wilt, yellow leaves, early fall coloring, and leaf scorch (browning along the margins) on broadleaf plants, and brown, dying turfgrass.

The symptoms are a result of the roots failing to supply sufficient water to the leaves. This inability is influenced by the moisture content of the soil and by the location and condition of the root system. The drought conditions have significantly reduced some plant root systems, making them unable to supply enough water to compensate for the tremendous amount lost through the leaves.

As would be expected, some plants are affected more by drought conditions than others. Especially affected are potentilla, hydrangea, viburnum, euonymus, and holly shrubs; redbud trees; spruce and hemlock conifers; and bog plants such as iris and

astilbe. Fortunately, our native prairie species adapt well to these conditions and, although the top growth is dying back, this dieback helps build reserves into the crown for growth next season.

Knowledge of plants' normal growth habits is important. For example, although many white pines continue to show signs of stress (see "White Pine Problem" in issue No. 12 of this newsletter), these pines naturally drop last year's needles in late August through mid-October. By contrast, most other pines and spruces keep several years of needles. If they begin to drop last year's needles, severe stress or disease could be present.

To save the landscape plants, water any stressed plants now to encourage recovery growth and root revival. Apply enough water to penetrate deeply within the dripline. Newly installed plants, especially those in containers, should be watched carefully and watered properly. Never overwater. To prevent plants from sending out succulent, frost-susceptible growth, avoid fertilizing or pruning until plants are dropping their fall leaves. (Rhonda Ferree and Floyd Giles)

INSECTS

Annual White Grubs

Although all indications are that larval annual white grubs should be present now in large numbers, we have yet to find any in central Illinois or in any other part of the state.

The adult beetles emerged later than usual, probably because of the cool spring. We normally first see adults in east central Illinois on the evenings of July 2 or 3, but we did not see them until July 7, almost one week later. July 18 was the last time that we saw beetles in central Illinois.

Because the beetles do not feed, they normally live for only about two weeks. At the Morton Arboretum in northeastern Illinois, annual white grub adult flight



peaked on July 22, and a few were still present in the first week of August. In most years, annual white grub flight is over in northern Illinois near July 25. Beetle flights ranged from normal in some areas of the state to above average in many areas, including central Illinois.

When turf is dry and dormant, the adults migrate to irrigated turf to lay their eggs. Unirrigated turf throughout most of Illinois was dry and dormant in July. This should have resulted in large numbers of eggs being laid in watered turf.

The eggs that the masked chafers or annual white grub adults lay usually hatch in two to three weeks. High soil temperatures—around 90°F and above—will reduce hatching. However, soil temperatures have been in the 70s during this time. The resulting white, C-shaped grubs are easily noticed against dark soil, even the newly hatched ones, which are approximately 3/16 inch long. They are present in the root zone of turf if the soil is damp. Dry soil will cause the grubs to move downward in the soil column.

With the late flight of the beetles, we do not anticipate damage to occur until late August in southern Illinois and until almost mid-September in northern Illinois. Grub numbers of ten or more per square foot are likely to cause turf damage.

If raccoons, skunks, or birds feed in the area, turf damage will occur at much lower numbers—three to five grubs per square foot. Raccoons peel back four- to twelve-inch-wide sections of turf to feed on the grubs. Skunks tear out divots of turf that are three to six inches in diameter. While a raccoon usually tears out six or fewer sections of turf in an area, a skunk usually makes 30 or more holes. Birds pick at the turf, tearing out the sod in one-inch pieces. Such feeding causes the affected areas to turn brown from the removed thatch and sod.

If treatment for grubs is needed at this time, use faster-acting insecticides such as trichlorfon (Dylox, Proxol), bendiocarb (Turcam, Intercept), or isozofos. Triumph is labeled for use only on home lawns, sod farms, and golf course tees, greens, and aprons. Diazinon is not labeled for use on golf courses or sod farms. Grubs treated with diazinon will stop feeding but will take about three weeks to die. (*Phil Nixon, Fredric Miller, and Karel Jacobs*)

Bagworms

Bagworms were late hatching this year, which resulted in a later feeding season than normal. Usually bagworms pupate in mid- to late August, but we are

still hearing reports of feeding bagworms around the state and recently saw some in central Illinois that were only 3/4 inch long. Bagworms usually pupate when they are about 1-1/2 inches long.

Bagworms are whitish caterpillars that construct individual silk cases around themselves. They cover these silk cases with bits of leaves from the tree or shrub they are feeding on. These bits of foliage turn brown within a couple of days, resulting in brown bags moving across the trees and eating leaves.

Throughout its entire life as a caterpillar, this insect places new foliage at the top of the bag. Thus, an actively feeding caterpillar has green foliage at the top of its bag. If the caterpillar pupates, it ties off the top of the bag to a branch, and any green foliage quickly turns brown. If the caterpillar dies, the foliage on the bag will be completely brown. Bagworms that are alive and actively feeding can be controlled with trichlorfon (Proxol, Dylox), cyfluthrin (Tempo), and other synthetic pyrethroids. *Bacillus thuringiensis* var. *kurstaki* (Dipel, Thuricide) is more spotty in its control of large larvae but is the only option for do-it-yourself homeowners.

Bagworms start to feed at the top of the tree and work their way down. A pair of binoculars is useful for detecting feeding bagworms on large trees. Bagworms most commonly attack eastern red cedar and other junipers, as well as spruces, arborvitae, Douglas-fir, honey locust, pin oak, red oak, and tallhedge. Stripped branches of coniferous evergreens will probably die.

Bagworms will pupate later this summer. Male bagworms emerge as black, one-inch-long moths with clear wings. They mate in early fall with the adult females that stay in the bag. Adult female bagworms are brownish and larval in appearance. Mated females fill their bodies with up to 1,000 eggs in the fall before they die. These eggs hatch in June of the following year.

Old bags that housed males will have dark brown pupal cases (about 1/2 inch long) sticking out of the end. The other bags are likely female bags that can be picked off trees from late fall through spring to reduce the number of caterpillars that are present next year. Do not just toss the picked bags to the ground under the tree because young bagworm larvae crawl long distances and will probably crawl up onto the tree. Picking off all of the old bags will not totally eliminate bagworms from the tree because young bagworm larvae are blown on strands of silk from tree to tree for a couple weeks after they hatch in June. (*Phil Nixon*)

PLANT DISEASES

Bacterial Wilt of Cucurbits

This disease is caused by a pathogen so small that hundreds can be found in bacterial exudate the size of a drop of water. The pathogen can quickly multiply and plug the vascular tissues so that water transport does not occur. This tiny bacterium is transported from plant to plant by both striped and spotted cucumber beetles.

Bacterial wilt is most devastating on cucumbers and muskmelons (cantaloupes). The disease can also occur on pumpkins and squash, although not often as severely. It rarely infects watermelon. In all cases, wilt symptoms appear first on individual leaves and quickly spread to lateral shoots, causing the entire plant to wilt. Symptoms develop more quickly on younger, smaller plants.

To confirm the presence of bacterial wilt, cut a live, wilted runner off the plant. (Take the five or six inches of stem nearest the crown.) Cut the stem section in two, then hold the cut ends back together and squeeze them until the plant sap flows out and intermingles from each cut edge. Slowly pull the cut ends apart. If there is a strand of sticky sap between the cut ends, then a bacterium is likely present and bacterial wilt is a strong possibility. Unfortunately, once you confirm this disease, nothing can stop it in the infected plant. However, steps can be taken to prevent the wilt in next year's plants.

The primary method for controlling bacterial wilt is to control the beetle vector. The beetles overwinter as adults that are present when the vine crops emerge. The application of both preplant systemic and postemergence protectant insecticides might be necessary to prevent a problem with bacterial wilt in commercial plantings. Because the beetles are most attracted to plants in the cotyledon stage, insecticides should be initiated immediately after planting. Entomologists warn that when blossoming begins, insecticides should be applied late in the day so as not to interfere with pollination by bees. Consult *Report on Plant Diseases* No. 905 for details about bacterial wilt. (Nancy Pataky)

Watch for Pine Wilt

Pine wilt, caused by the pinewood nematode, was discussed in issue No. 8 of *Home, Yard and Garden*

Pest Newsletter. We have confirmed several cases of pine wilt at the Plant Clinic in the last two weeks, so it is appropriate to review the symptoms of this disease. Trees dying now were likely infected in spring or summer.

Watch for the appearance of entire dead branches or sudden decline and death of an entire pine within a few weeks or months of initial symptoms. Be particularly suspicious of 15- to 20-year-old Scotch pines with these symptoms. Austrian pine is the only species that may show tip dieback as the first symptom. For symptoms on white pine, see issue No. 12 of this newsletter. (Although we have assayed many white pines for pinewood nematodes, we have never confirmed the pinewood nematode in that species.)

Sawyer beetles vector the nematode from pine to pine. Because there is no easy way to stop the beetle and because no treatments exist for infected trees, early detection is critical to disease control. To break the disease cycle, quick removal of an infected tree is important. Consult *Report on Plant Diseases* No. 1104 for details about pine wilt. (Nancy Pataky)

Guignardia Leaf Blotch

Horsechestnut and buckeye trees that appear from a distance to be severely scorched may actually be infected with this fungal disease. On closer inspection, reddish brown leaf spots with bright yellow margins are obvious. The spots will enlarge and cover most of the leaf surface. Leaves then become dry and brittle and drop early. You can distinguish this disease from environmental scorch by the presence of fruiting bodies formed by the fungus (*Guignardia aesculi*) in the leaf lesions in moist weather. These black, pinhead-sized structures are called pycnidia. With *Guignardia* leaf blotch, all leaves will be affected, unlike with scorch, which first affects newest leaves on the sun or wind side of the tree.

This disease is serious yet treatable in nursery stock. Mature trees usually retain live buds and lose leaves late in the season, so they are not significantly harmed. Removing fallen leaves may be helpful in reducing the amount of fungal inoculum living through the winter on these leaves. Also try to prune surrounding vegetation to allow better airflow through the area for more rapid drying of foliage. (Nancy Pataky)

Rhizoctonia Brown Patch

Brown patch is a fungal disease caused by *Rhizoctonia* species. It commonly occurs in hot, muggy weather when night temperatures are at least 70°F and daytime temperatures are in the 80s and 90s. It is favored by heavy rains or watering and by grass that is dense and at least adequately fertilized.

The disease appears as patches up to two or three feet wide. The patches may be dark blue initially, as though under drought stress. The color quickly changes to purple-brown and then light brown. The patches may develop green centers and resemble summer patch or necrotic ring spot. In light infections, the turf generally recovers in two or three weeks. When the attack is severe, the crowns, rhizomes, stolons, and roots may turn brown and rot, causing turf to be thinned or killed in large areas.

A few cases of brown patch have been confirmed at the Plant Clinic. Many similar cases have been caused by drought, not a pathogen.

Brown patch can be prevented with the cultural practices listed in *Report on Plant Diseases* No. 411. Once the disease occurs, chemicals may keep it from spreading, but long-term control requires following cultural recommendations. Chemical options are listed in the *1997 Illinois Commercial Turf and Landscape Pest Management Handbook*. Be sure to read the label on the selected product for recommended formulation, rates, and timing for your particular turf conditions.

Because such applications usually require sprays at five- to fourteen-day intervals throughout the summer, fungicide control of brown patch is usually reserved for golf courses. Products are not always available in quantities suitable for homeowner use. The recommendation for a severe infection in a home lawn is to rake and remove the dead areas, follow cultural recommendations, and re-seed with a blend of resistant turf grasses suitable for the light requirements of the lawn. (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 in cooperation with the USDA Animal and Health Inspection Service.

Major authors are Phil Nixon, (217) 333-6650, John Lloyd, (217) 333-6653, and Fredric Miller, (708) 352-0109, entomologists; Nancy Pataky, plant pathologist, (217) 333-0519; Rhonda Ferree, Tom Voigt, and David Williams, horticulturists, (217) 333-0350, and Karel Jacobs, plant pathologist, the Morton Arboretum, (630) 719-5646. 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 and typeset by Oneda VanDyke of Information Technology and Communication Services.