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

Scouting Watch

Potato leafhopper is present on maple trees in Kentucky. Be watchful for this insect, particularly on red maples, in southern Illinois. Typically, potato leafhoppers appear in large numbers in alfalfa before they move to landscape plants. Control these insects with any of the labeled pyrethroid insecticides such as bifenthrin (Talstar), cyfluthrin (Tempo), lambda-cyhalothrin (Scimitar), or permethrin (Astro, Pounce, Ambush). Pounce and Ambush can only be used in nurseries.

Euonymous scale crawlers are also present in Kentucky and should be showing up in southern Illinois. They can be controlled with a variety of insecticides while they are in this vulnerable crawler stage.

Pine needle scale crawlers have hatched on white pine in northeastern Illinois. The adults, visible all year round, look like white flecks and are teardrop shaped. In a heavy infestation, a tree can look almost flocked white. The tiny red crawlers are controlled with a variety of insecticides listed in the *Illinois Commercial Landscape and Turfgrass Pest Management Handbook, 1998–1999.*

Euonymus webworm (also known as Euonymus caterpillars) has been found on running strawberry bush (*Euonymus obovatus*) in northeastern Illinois. This insect was present in large numbers last year in this part of the state, particularly on European euonymous. Look for larvae in small webs. The webs increase in size as the larvae feed on the leaves and can become large. The slender caterpillars are a very pale yellow with black spots and can grow up to 4 or 5 inches long. *Bacillus thuringiensis* var. *kurstaki (Bt)* will control young larvae but is less effective on mature larvae. Penetrate the web thoroughly with *Bt* as the insect must eat the *Bt* in order for it to work. Other insecticides are also effective. *(Phil Nixon, The Morton Arboretum, and Mike Potter, University of Kentucky)*

Bronze Birch Borer

European white birch, gray birch, paper birch, and yellow birch trees that are growing in landscapes are susceptible to bronze birch borer infestations. Adult bronze birch borers are coppery brown with a boat-shaped abdomen. Adult females lay eggs in cracks and crevices or under loose bark on the sunny side of trees. After approximately 2 weeks, eggs hatch into larvae that bore directly into the bark and begin making feeding galleries. Larvae are long and flat with a head that is wider than the body. Larval feeding can result in girdling of the trunk or branches. Infested trees commonly have ridged or swollen bark where larvae have made their zigzag pattern underneath it. Larvae then pupate near the bark surface. After pupation, adults emerge by chewing a D-shaped hole in the bark. Adults feed on the leaves of birch, alder, and poplar.

Prevention is the best way to manage bronze birch borer. These insects prefer stressed trees because they are unable to survive in healthy trees, so proper watering, fertilizing, mulching, and pruning can reduce the potential for bronze birch borer infestations. Birches should not be pruned between May 1 and August 1; this is the general flight period of the bronze birch borer, and females are attracted to pruning cuts. In addition, planting less susceptible varieties of birch such as heritage and whitespire can lead to fewer problems with this insect.

Chemical management of bronze birch borer involves the use of chlorpyrifos (Dursban) or dimethoate (Cygon). These materials should be applied to the bark to kill larvae that hatch from eggs and adults that feed on the bark to provide a site to lay eggs. Cygon should be applied to the bark as a band no more than 6 inches wide. *(Raymond Cloyd)*

Arthropod Pests and Improper Horticultural Practices

Proper implementation of sound horticultural practices has the greatest impact in maintaining healthy plants in the landscape. Cultural practices such as watering, mulching, pruning, and fertilizing, when

properly implemented, cause plants to grow and flower to their fullest potential. However, when these cultural practices are improperly performed, insect/mite problems can result.

Water. Underwatering or overwatering often leads to plant stress, and these plants are more susceptible to insects such as wood-boring beetles. Stressed plants emit volatile chemicals that attract these insects. The wood-boring beetles use these chemical cues to help them easily locate plants whose natural defenses have been compromised by improper watering practices. Underwatering plants may lead to higher populations of spider mites because there is less moisture in the air from ground and foliar evaporation, resulting in lower relative humidities and drier conditions. These conditions favor spider mite development.

Mulch. Proper mulching moderates soil temperatures, conserves moisture in the soil, reduces competition from other plants, reduces weed pressure, prevents soil compaction, and minimizes soil erosion. However, improper use of mulches can often lead to increased plant susceptibility to insects. For example, applying too much mulch or covering the plant crown prevents the bark from exchanging oxygen and the plant suffers from asphyxiation. This leads to plant stress and a higher probability of attack from wood-boring beetles. Thick mulches (6 to 8 inches) can provide a moist environment that is attractive to voles, who feed on the bark of these plants.

Pruning. Proper pruning performed during the dormant period and growing season generally involves removing dead, diseased branches and weakened growth to maintain plant health and vigor. However, excessive pruning during the growing season, such as removing large portions of the plant canopy, will result in spurts of succulent growth highly susceptible to insects. Suckers that are produced from heavy pruning are also susceptible to insects such as aphids because this succulent tissue does not possess a protective waxy covering. In addition, improper pruning cuts, such as stubs, emit volatile odors that attract insects and provide easy entry sites for wood-boring beetles.

Fertility. Overfertilizing and underfertilizing plants often leads to stress or the production of susceptible growth. An excessive application of highly soluble nitrate fertilizers (generally used for turf) generates lush, weak growth that is susceptible to attack by insects. In addition, excessive amounts of fertilizer cause plants to allocate more of their resources toward leaf production, and less is shunted toward defense, exposing plants to insect attack. Conversely, plants that are unable to obtain sufficient quantities of nutrients are also more prone to insect/mite attacks because their natural defense system has been compromised.

Proper implementation of sound horticultural practices such as watering, mulching, pruning, and fertilizing are important in maintaining plant health. However, when these same practices are improperly performed, problems with insect/mite pests, which may require applications of pesticides, can result. Therefore, maintaining sound cultural practices can often lead to less use of pesticides. *(Raymond Cloyd)*

PLANT DISEASES

Pine Wilt

Most of the early horticultural samples at the Plant Clinic have involved evergreens. A good number of the pines have been infested with pinewood nematodes, the cause of pine wilt disease. We have already seen many more positive cases of this disease than occurred last spring, and I have no explanation. The spring of 1998 was a particularly light year for pine wilt at the Plant Clinic.

Pine wilt causes a sudden decline and death of an entire tree within a few weeks to several months after the first sign of disease. Infected trees will show symptoms much like the fungal vascular wilts on deciduous trees. There may be a branch-by-branch decline in one section of the tree, or the tree may appear to die all at once. If the disease is seen early in its development, needles appear light grayish green, but the needles quickly become brown. The disease affects entire branches on all pines except Austrian pine. We have documented cases of pinewood nematodes in Austrian pine that initially showed symptoms on branch tips only. This symptom can be confused with Sphaeropsis blight.

Pinewood nematodes are vectored (spread) by the sawyer beetle and a few related long-horned beetles. Many readers are familiar with nematodes as soil- or root-related pathogens, but in this case the nematode lives in the wood of the tree. The nematode is microscopic and causes blockage of the water-conducting tissues, resulting in a wilt symptom. The nematodes are not visible with the naked eye, but symptoms are quite apparent.

Samples to be tested for pine wilt should be sent to the Plant Clinic or another lab where a nematologist is available. Our fee is $18.50. Branch samples should be 1 to 2 inches in diameter and long enough to put into a vise so that wood discs can be cut from both ends of the branch. The pinewood nematode is not uniformly distributed within a tree. The most reliable samples are from branches with brown needles still attached. When sampling Austrian pine, also include the terminal 12 inches of a stem with brown needles attached.

There are no known effective chemical controls for pine wilt or its vector. Affected trees should be burned or buried to reduce reservoirs of infection. (Recent research shows that it is probably safe to chip the trees for mulch. Still, you might want to compost the mulch before use or spread it out to dry before placing it near pines.) Prune dead branches from live trees to minimize attractiveness for beetle feeding. Beetles that emerge from the dead wood may carry the nematode and fly to healthy pines several miles away. When the beetle feeds on a healthy pine, it may transmit the nematode to the tree through feeding wounds. The nematode enters the resin canal and eventually clogs the water transport system of the tree.

All pines that we grow in Illinois, with the exception of white pine, are susceptible to pine wilt. White pines have many problems with Illinois soils and temperatures and are not encouraged as replacement tree species. Replace dead pines with Norway or blue spruce, Douglas fir, cedar, hemlock, or other nonsusceptible species. Consider the site, soil, and space when selecting a replacement tree. Consult *Report on Plant Disease* No. 1104 for details about this disease. *(Nancy Pataky)*

Disease Updates

Apple scab has developed in central Illinois on susceptible crab apples. We are now seeing brown to black velvety leaf lesions that are 3/4 inch long. Leaf drop has not yet occurred. Reports from The Morton Arboretum in the Chicago area indicate that lesions are also present in the northern parts of Illinois on crab apples. For more information on scab, consult *Report on Plant Disease* No. 803 (available on the Web at http://www.ag.uiuc.edu/~vista/horticul.htm) or in issue number 2 of this newsletter.

Anthracnose has occurred throughout the state as we predicted. The disease was discussed in last week's newsletter. Many homeowners are concerned about ash anthracnose because of the massive leaf drop it has caused. Remember, in years with prolonged cool, wet spring weather, the disease may kill almost the entire first flush of leaves. This happens often on sycamore, but not so frequently on ash. The trees will recover soon with a new flush of leaves. Sycamores have been heavily infected this year. Northern Illinois is seeing anthracnose on both ash and sycamore. So far, there have been no reports of maple or oak anthracnose, but these may occur later.

Rhizosphaera needle cast continues to come into the Plant Clinic on spruce. Refer to last week's newsletter for the details. If your tree has this disease, there may still be time for the first fungicide spray. The first application is made when new needles are half grown. *(Nancy Pataky)*

Leaf Curl and Blister

Peach leaf curl occurs on peach, nectarine, and some ornamental *Prunus* species. Leaf curl or leaf blisters refers to a similar group of diseases on oak and occasionally on poplar. Several *Taphrina* species (fungi) cause all of these diseases. Leaf distortion and blisterlike growths or puckering of the leaves is common to all. The leaves are often thickened and almost crisp. Leaves turn downward and inward and may become red or purple. Peach leaf curl is with us again this year. Conditions in many parts of the state have been ideal for this disease.

The causal fungi survive over winter in buds and twigs. They infect leaves and flowers in the cool, moist weather of early spring from bud swell to bud opening (ideally, temperatures are 50°F to 70°F). Infected trees may show early leaf drop, but generally the life of the tree is not threatened. Repeated yearly infection may weaken a tree and predispose it to other problems. Fruit growers are often concerned because these fungi reduce fruit quality.

We recommend that fruit growers apply a single dormant fungicide spray before bud break, and most commercial growers incorporate that into their spray programs. Landscape managers should focus on promoting tree health through pruning, watering, and fertilization. Fungicides are not usually recommended. At this point in the season, fungicides would be useless against this disease. A few persons have called and asked why their fungicide sprays were ineffective. In one case, liquid copper was used; in others, bordeaux mix was used. Both chemicals should work against this disease. The timing of the spray may be part of the problem. The chemical must

be applied when buds are still dormant but close to bud break. It is possible that some of the chemical may have been washed off before the buds began to grow. A more likely scenario is that the chemical was not sprayed thoroughly enough or that it did not afford complete coverage. Hand sprayers often put out a rather coarse spray, and even coverage is difficult to attain. It might be wise to put a spreader-sticker in with the spray and to spray until the tree glistens. The fungus overwinters in bud scales and in cracks and crevices of the bark, so thorough coverage is necessary.

For more on leaf curls and blisters, consult *Report on Plant Disease* No. 805, Peach Leaf Curl and Plum Pockets, or No. 663, Oak Leaf Blister. *(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.*

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