



UNIVERSITY OF ILLINOIS EXTENSION

# HOME, YARD & GARDEN PEST

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

NEWSLETTER

No. 9 • June 16, 2004

## PLANT DISEASES

### Oak Wilt Appears

If you have an oak tree that shows severe leaf scorch near the top of the tree, branch death that seems to spread each year, or sudden browning and death, you may be dealing with oak wilt. This fungal disease kills oaks. Red and black oaks die quickly, usually in one season. Oaks in the white oak group may decline over many years. No oak species is immune. The Plant Clinic isolated the oak wilt fungus from two oaks in north-central Illinois last week—the first confirmed cases for 2004. This is a couple of weeks earlier than in the past 2 years. These cases should serve as a reminder to watch for oak wilt symptoms so that you recognize it when you have the real thing. Quick action may save nearby oaks.

If you have oak wilt in your area, do not prune oaks now. Pruning when trees are actively growing results in sap flow, attracting the beetles that may carry the fungal pathogen to your tree. Both the beetles and the fungus are now active. If oak wilt is present in your area, try to leave pruning of oaks at least until after midsummer. The dormant season would be an even better time for this task.

Oak wilt symptoms vary, depending on the oak species involved. Generally oaks in the red-black group develop discolored and wilted leaves at the top of the tree or at the tips of the lateral branches in late spring and early summer (now). The leaves curl slightly and turn a dull pale green, bronze, or tan, starting at the margins. Usually by late summer, an infected tree has dropped all its leaves. In some years, we have seen red oaks progress from scorched foliage to total defoliation in as little as 3 weeks.

The white and bur oak group generally shows symptoms on scattered branches of the crown. The disease is often confused with general dieback and decline. Leaves on infected white oaks become light brown or straw-colored from the leaf tip toward the base. The leaves curl and remain attached to the branches. This tree group may die in one season but is much more likely to survive for many years with a stagheaded appearance. Anthracnose may produce some look-alike symptoms. Anthracnose causes brown

spotting scattered over the leaves and may cause slight leaf cupping as well. A tree infected with only anthracnose produces healthy new leaves as temperatures turn warm. If oak wilt infects a section of a tree, the new leaves do not appear healthy.

Look for vascular discoloration to help diagnose oak wilt. If you think your tree is infected, the Plant Clinic can prepare cultures from the wood to detect the fungus. Samples should be 8 to 10 inches long, about thumb thickness, alive but showing symptoms, and must contain vascular discoloration. It takes about 7 to 10 days for the fungus to develop in the lab to the point where a positive confirmation can be made. The processing time can not be shortened. Oak samples for oak wilt testing should be sent on disposable ice packs to prevent killing the fungus (in mail trucks) with high temperatures before it can be isolated in the lab.

Oak wilt is particularly threatening because there is no complete control or cure once the fungus infects. The fungus infects through fresh wounds by a beetle vector and can spread by root grafts between trees. The infected tree cannot be saved, but you may be able to save nearby trees, so a positive diagnosis is important in many cases. Refer to *Report on Plant Disease*, no. 618. You can obtain this report on the Web (<http://www.ag.uiuc.edu/%7Evista/horticult.htm>) or at local Extension offices. (Nancy Pataky)

### Oak Leaf Blisters

In contrast to oak wilt, which is lethal, this disease is relatively harmless. Still, it causes some concern because it can deform leaves and cause some leaf drop.

The disease is caused by a fungal species of *Taphrina*, and leaf distortion and blisterlike growths are common. The leaves are often thickened and almost crisp. The blistered areas turn from green to red to brown as the season progresses.

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° to 70°F).

Landscape managers should focus on promoting tree health through pruning, watering, and fertilization. Fungicides are not usually recommended for ornamental trees although they are useful on peaches for a

related disease, peach leaf curls. If you are having problems with leaf curl and blisters and wish to use a fungicide control, mark your calendar for a late-fall or winter fungicide application.

Fungicide options for homeowners are listed in the *Home, Yard, and Garden Pest Guide*. Fungicides available to commercial growers are listed in the *Commercial Landscape and Turfgrass Pest Management Handbook*. 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." Both are available in Illinois Extension offices or on the U of I Web site (<http://www.ag.uiuc.edu/%7Evista/horticult.htm>). (Nancy Pataky)

### Ivy Leaf Spots Prevalent

There are several leaf spotting diseases of English ivy, *Hedera helix*. Two are caused by fungal pathogens, and one is the result of a bacterial agent. All can cause leaf spots, stem cankers, and thinning of plant canopy.

The first disease we saw on English ivy at the Plant Clinic this year was anthracnose. Many different anthracnose fungi occur on many different plant species. The one on *Hedera helix* is a *Colletotrichum* species. We usually see this fungal disease following injury. In fact, the late frost in early May served as a precursor to anthracnose on English ivy this year. With proper sanitation, good air movement, and good growing conditions, that disease probably won't persist.

Bacterial leaf spot and stem canker is the more common disease in Illinois. Unfortunately, it is the most difficult to manage. It thrives in warm, wet weather, such as we have experienced in much of the state lately. Bacterial leaf spot first appears as small, circular, dark green, water-soaked (oily) lesions on the leaves. As these enlarge, they have reddish brown to black centers with a water-soaked margin and (sometimes) a yellow halo. The spots also crack with age. The bacterium may cause black cankers on the stems and petioles; and those stems die, often with black tips. The bacterial pathogen is easily spread from plant to plant by splashing water.

The fungal leaf spots are caused by a variety of fungal species. Technically, anthracnose is included here as well. I have listed it separately because it usually follows an injury. The fungal diseases cause round to irregular spots in a variety of colors, much as with bacterial spot. One distinguishing characteristic is that often a series of concentric rings can be seen in the fungal spots (like a target). In addition, the fungal spots form fruiting structures within the spots. Look closely on the spots for small, black specks (pinhead-sized), which are fruiting structures containing spores of fungi. These fruiting bodies may be embedded in

the spots (pycnidia), or they may be on the surface and have black, hairlike structures called setae (anthracnose). Bacterial spots do not contain fruiting structures. The diseases are easily distinguished in a lab but can be confusing in the field.

Inspect new plant purchases carefully. Remove any questionable leaves or stems from transplants. It is also a good idea to remove old leaves and debris from the beds each spring before new growth starts. Always work with the plants when they are dry to avoid spread of the pathogen. Infection occurs through moisture on the foliage, so water the soil rather than the foliage where possible. Consider using soaker hoses in ivy beds. It is a good practice to water early in the day.

If leaf spots have been severe, apply fungicides starting when new leaf growth begins in the spring. Registered chemicals are listed in the *Illinois Commercial Landscape and Turfgrass Pest Management Handbook* and the *Home Yard and Garden Pest Guide*. Because the chemicals are protectants, they usually specify repeats at 7- to 10-day intervals as long as wet weather persists in the spring and early summer. If you choose a systemic product, you do not have to spray as often. Chemical mobility is listed at the end of the disease chapters in the pest guides listed above. Many chemical options listed for both diseases. If you cannot determine which disease is present, use a product listed for both. Try to improve air movement in the area by thinning the stand and pruning surrounding plants. For more information about these diseases, consult *Report on Plant Disease (RPD)*, no. 652, "Leaf Spot Diseases of English Ivy." *RPDs* are available in Extension offices or on the Internet at <http://www.ag.uiuc.edu/%7Evista/horticult.htm>. (Nancy Pataky)

## INSECTS

### Scouting Watch

**Lacebugs** have been found on linden at the Morton Arboretum in northeastern Illinois. Lacebugs are typically 1/8 inch long and flattened. They appear whitish, due to the first pair of wings, which appear lacelike under magnification. Nymphs are blackish to brownish, depending on the species. Different species of lacebugs are common in Illinois on sycamore, linden, hackberry, and oak. Typical damage consists of whitish stippling on the upper side of the leaf. The bugs are typically located along the veins on the underside of leaves. The leaf underside has black, tarlike spots of fecal material that look like pepper. On most trees, damage is slight enough that control is not needed. On hackberry, lacebug can cause the leaves to turn yellow and fall off. If needed, pyrethroid and other labeled insecticides are effective.

**Oak sawfly** damage has also been reported at the Morton Arboretum on pin oak. Larvae appear initially as yellowish slugs on the leaves, causing window-feeding. Older larvae lose their slime and appear greenish. These older larvae may also feed on leaf margins, causing defoliation in heavy infestations. They are controlled by carbaryl (Sevin) and labeled pyrethroids. (*Phil Nixon and Morton Arboretum*)

### Eriophyid Mites

Eriophyid mites, also known as blister, bud, gall, and rust mites, are extremely tiny (less than 0.3 mm long), worm- or spindle-shaped mites with elongated bodies. They resemble cigars, with the head and legs located on one end of the body. They have two body regions: mouthparts (gnathosoma) and the rest of the body (idiosoma). The idiosoma is similar to the abdomen of insects. Eriophyid mites possess only two pairs of legs, which is a unique characteristic among mites (all other mites have four pairs of legs as adults). They cannot be seen without some type of magnification (that is, 10x hand lens or dissecting microscope).

These mites are a specialized group of plant feeders. Many eriophyid mites, in general, feed on a few closely related species or genera of plants. At the tip of the idiosoma is an attachment that allows the mite to hold on to the plant surface. Eriophyid mites feed deep within the plant tissues (meristematic region), sucking out plant juices with their styletlike mouthparts and transferring a substance or toxin, which causes deformation of plant growth. Feeding typically results in densely packed or distorted growth that appears “rough.” However, eriophyid mite feeding can result in a variety of symptoms, including galling, clustering or “witches’-broom,” swollen or thickened growth, leaf blistering, and russetting or bronzing of leaves. Eriophyid mites may be categorized based on the type of injury they cause to plants, with the two primary classifications being (1) those that create galls (gall-formers) and (2) those that stunt new plant growth. Additionally, eriophyid mites are the only group of mites known to transmit plant viruses.

Eriophyid mites tend to live together in large clusters and reproduce within the folds of plant tissues. With the aid of a dissecting microscope (set at 100x), the mites and eggs can be seen. The eggs are spherical and generally laid in groups, although they can be laid individually. They hatch in less than 2 weeks into young mites that may take about 2 weeks to a month to mature into adults. The reproductive potential of eriophyid mites is very similar to twospotted spider mite, *Tetranychus urticae*. Each eriophyid female mite may lay up to 100 eggs. Several generations may occur throughout the growing season.

Eriophyid mites attack a wide range of ornamental plants, including maples (*Acer* spp.), ash (*Fraxinus* spp.), walnut (*Juglans* spp.), cherry (*Prunus* spp.), and elm (*Ulmus* spp.). The primary eriophyid mites that attack plants belong in the genus *Eriophyes* spp. Table 1 (page 4) lists numerous gall types caused by eriophyid mites on trees and shrubs throughout the United States. Eriophyid mites feed on all plant parts, including buds, flowers, leaves, and twigs.

Insects can actively transport eriophyid mites from one location to another. For example, *Eriophyes ribis* rears up and sways in the air and then attaches itself to an aphid, ladybird beetle, or other insect it comes into contact with. Because they are difficult to detect, they can be easily moved around. In fact, a new eriophyid mite, *Calacarus carnitus*, also known as the purple or ribbed tea mite was recently reported in Florida. It is a distinctive purple color with a white, waxy residue. The mite has also been reported in Georgia and California. Photos of plant injury can be found at <http://www.mrec.ifas.ufl.edu/erio-mite/erio-mite.htm>.

Once injury is evident, it is too late because the mites are already established within the plant. As a result, preventive spray applications of miticides are needed to prevent injury from occurring. However, the number of effective miticides for controlling eriophyid mites is limited. Two insecticides/miticides that may be effective include abamectin (Avid) and bifenthrin (Talstar), but these materials generally need to be applied before eriophyid mites enter the terminal growth and cause injury.

An important management strategy even if applying miticides is to dispose of plants showing symptoms. In addition, it is generally advisable to dispose of plants surrounding the infected ones because they may also be infested. Also, it is beneficial to send suspected plants to a university diagnostic clinic for verification.

Biological control of eriophyid mites is very difficult because they live and feed in buds or galls, which protects them from large predators. In addition, there are no effective natural enemies for eriophyid mites. (*Raymond A. Cloyd*)

### Ticks

Ticks are common across Illinois at this time. Adult ticks are flattened and 1/8 to 3/16 inch long, depending on species. Due to their size, they are easily noticed by a person while showering and washing hair. Nymphs of blacklegged tick (deer tick) and lone star tick are not easily noticed, being pinhead-sized. In addition, they tend to crawl to the groin to feed, an area where a pinhead-sized tick can be easily overlooked. Nymphs are particularly common during June.

**Table 1. Gall types caused by eriophyid mites on ornamental trees and shrubs in the United States.**

Gall type	Casual organism	Host
Maple bladder gall	<i>Vasetes quadripedis</i>	<i>Acer</i> spp. (maple)
Ash flower gall	<i>Eriophyes fraxiniflora</i>	<i>Fraxinus</i> spp. (ash)
Poplar bud gall	<i>Eriophyes parapopili</i>	<i>Populus</i> spp. (poplar)
Taxus gall	<i>Cecidophopsis psilaspis</i>	<i>Taxus</i> spp. (yew)
Witches'-broom gall	<i>Eriophyes celtis</i>	<i>Celtis</i> spp. (hackberry)
Blueberry gall	<i>Acalitus vaccinii</i>	<i>Vaccinium</i> spp.
Birch bud gall	<i>Eriophyes betulae</i>	<i>Betula</i> spp. (birch)
Maple spindle gall	<i>Vasates aceriscrumena</i>	<i>Acer</i> spp. (maple)
Red erineum	<i>Eriophyes (= Aceria) elongatus</i>	<i>Acer</i> spp. (maple)
Green erineum	<i>Eriophyes modestus</i>	<i>Acer</i> spp. (maple)
Crimson erineum	<i>Aculops maculatus</i>	<i>Acer</i> spp. (maple)
Green pouch gall	<i>Phytoptus emarginatae</i>	<i>Prunus</i> spp. (cherry)
Elm spindle gall	<i>Eriophyes parulmi</i>	<i>Ulmus</i> spp. (elm)
Black walnut pouch gall	<i>Eriophyes brachytarsus</i>	<i>Juglans nigra</i>
Walnut purse gall	<i>Eriophyes brachytarsus</i>	<i>Juglans</i> spp. (walnut)
Fuchsia gall	<i>Aculops fuchsiae</i>	<i>Fuchsia</i> spp.

Blacklegged ticks carry Lyme disease; lone star ticks and American dog ticks (wood ticks) carry Rocky Mountain spotted fever and Ehrlichiosis. To transmit diseases, the ticks have to feed for at least 24 hours. Ticks should be removed by grasping the tick's "head" where it enters the skin. Pulling slowly and constantly should cause it to release its grip. Other methods are more likely to kill the tick, resulting in the mouthparts remaining in the wound.

Repellents such as DEET (Cutters, Off) or Bite Blocker should be effective when applied to clothes and skin. Permethrin, sold as Permanone, is applied to clothing, where it is effective for several weeks through repeated washings. Permanone is applied to the clothes and then allowed to dry before the clothes

*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, Fredric Miller, (708)352-0109, and Raymond Cloyd, (217)244-7218, entomologists; Nancy Pataky, (217)333-0519, plant pathologist; Bruce Paulsrud, (217)244-9646, pesticide applicator training; and Tom Voigt and David Williams, (217)333-0350, and Michelle Weisbrook, (217)244-4397, horticulturists. 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. It is edited by Mary Overmier and typeset by Virginia Cuppernell, Information Technology and Communication Services.

For subscription information, phone (217)333-2666 or (800)345-6087, or e-mail [acesnews@uiuc.edu](mailto:acesnews@uiuc.edu). Web subscriptions are available (<http://www.ag.uiuc.edu/cespubs/hyg>).

Copyright © 2004, Board of Trustees, University of Illinois