



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. 8 • June 8, 2005

## PLANT DISEASES

### Fire Blight Correction

A few cases of fire blight on ornamental pear have continued to appear at the Plant Clinic this past week. We discussed this topic in issue no. 2 of the newsletter. In that article, I mentioned that resistance to this bacterium is available in ornamental pear. I also said that if you are thinking of planting new trees, you might do a bit of searching for resistant varieties. I listed ornamental Callery pears 'Aristocrat' and 'Autumn Blaze' as having good resistance reports. In two separate cases this spring, the Plant Clinic confirmed fire blight on 'Autumn Blaze' Callery pear. In fact, a Kansas publication that you can find on the Web at <http://www.utextension.utk.edu/publications/spfiles/SP277-R.pdf> lists Autumn Blaze as very susceptible to fire blight.

This brings up the issue of fire blight resistance information for Callery pear. It can be confusing and conflicting, depending on the list consulted. I don't have an answer to the problem nor a list that is any better than anyone else's. Part of the problem is inadequate testing due to limited time and money. Cultivars should be tested at multiple locations representing a wide geographic area, multiple times, and under various disease pressures. Obviously, this does not always occur. Possibly the bacterium has changed. The fact is that some Callery pears "resistant" to fire blight may become infected. Possibly sticking to cultivars that have been proven winners in your area is the safe route. (Nancy Pataky)

### Oak Leaf Tatters Update

We have had several cases of oak leaf tatters at the Plant Clinic this season. When a diagnostician labels foliage as "tattered," he or she is referring to the battering of wind on desiccated leaf tissue. Foliage may have been desiccated by wind, sun, or lack of water absorption. The result is a tattered appearance. Oak leaf tatters is a bit different scenario.

Try to picture foliage with a lack of leaf tissue, with only the major veins and a bit of tissue around the veins. That is oak leaf tatters. Leaves appear to have been eaten by something that avoided the veins. We have seen this problem on white oaks for at least

15 years in Illinois. It has been reported in other states as well, including Iowa, Indiana, Ohio, Michigan, Wisconsin, Minnesota, and Missouri.

No disease problem has been implicated. Likewise, insects are not the cause of oak leaf tatters. For many years, suspect causes included environmental stress as leaves emerge, cold damage, and herbicide drift. Last year, three researchers at the University of Illinois did a preliminary study that indicates that drift of chloroacetamide herbicides from applications onto corn and soybean fields is a possible cause of the leaf tatters syndrome. The researchers are Jayesh Samtani, John Masiunas, and Jim Appleby. An article describing their work can be found in the *Plant Health Progress Online Journal*, February 2005, at <http://www.plantmanagementnetwork.org/sub/php/brief/2005/tatters/>.

White oak is the common oak species affected. Many of the trees with oak tatters are affected early in the season but produce normal leaves later in the season. There has been some concern that a tree repeatedly attacked by oak tatters might decline and even die. No evidence exists to confirm this theory but the question merits investigation. You may help your trees by following good horticultural practices to promote tree health, especially watering in periods of drought stress.

Some questions and answers about this problem are listed at <http://www.extension.uiuc.edu/mg/oaktatters.htm>. This site was developed to assist Illinois Master Gardeners in identifying suspect trees. Photos are posted as well. Another helpful site is the U.S. Forest Service pest alert about tatters at [http://www.na.fs.fed.us/spfo/pubs/pest\\_al/oaktatters/oaktatters.htm](http://www.na.fs.fed.us/spfo/pubs/pest_al/oaktatters/oaktatters.htm). (Nancy Pataky)

### Oak Wilt

This disease might be confused with sudden oak death, but in name only. Sudden oak death was described in issue no. 1 of this newsletter. It may kill oaks; and infected trees have an oozing canker on the trunk. Sudden oak death has not yet been found in Illinois, whereas oak wilt can appear in any part of the state. In fact, you need to start looking for symptoms now. Infected trees may die in one season, do not have oozing cankers on the trunk, but show scorching of the leaves, which quickly moves down the tree. The vascular tissue of infected wood is stained a dark brown that gives

the wood a streaked appearance when bark is peeled off or appears as a brown ring in branches when cut and examined end-on.

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. Remember, quick action may save nearby oaks. Look for vascular discoloration to help diagnose the presence of oak wilt. If you think your tree is infected with oak wilt, the Plant Clinic can prepare cultures from the wood and detect the fungus when it is present. Samples should be 8 to 10 in. 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 cannot be shortened. Oak samples submitted 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.

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 until at least 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 will produce healthy new leaves as temperatures turn warm. If oak wilt infects a section of a tree, the new leaves will not appear healthy.

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 it can spread by root grafts between trees. The infected tree cannot be saved, but you may be able to save surrounding trees, so a positive diagnosis is important in many cases. Refer to *Report on Plant Disease*, no. 618, for more on oak wilt. You can obtain this report on the Web (<http://www.ag.uiuc.edu/%7Evista/horticul.htm>) or at local Extension offices. (Nancy Pataky)

## Drought Stress

Many areas of Illinois have been under light to moderate drought stress in the last couple of weeks. Drought is considered a noninfectious disease problem and can mimic other problems. Be familiar with symptoms that might result from lack of water.

Wilting is an obvious symptom of drought. This is something we recognize and which usually spurs us to action to provide water. The slow depletion of water to a plant may cause decline symptoms that elude us. These include scorching of leaf margins, dropping of leaves, death of young roots, death of branch tips, stunted growth, and eventually plant death. You can also kill plants with kindness. Avoid overwatering drought-stressed plants, as too much water in the root zone can also kill roots.

*Report on Plant Disease*, no. 620, "Leaf Scorch of Woody Plants," is available in Illinois Extension offices. It can also be found on the Internet at <http://www.ag.uiuc.edu/%7Evista/horticul.htm>. This report discusses various factors that might cause leaf scorch. Water deficit is not always the culprit. Scorch might result from factors such as salt injury, lack of soil oxygen, sunburn, wind, chemical injury, or mechanical injury to the roots and trunk. Read this report for details.

Containerized plants may contain bark, peat, or other components that become hydrophobic once they dry down. In those cases, it may be difficult to re-wet the soil mix because water simply runs through the pot. Slow, progressive watering may be necessary to rewet such containers.

The amount of injury to a plant from drought depends on the severity of the drought, the duration of the drought, and the tolerance of the plant species. Some plants are very sensitive to lack of water. For instance, Japanese maples readily scorch in drought situations, whereas pin oaks can tolerate dry sites. The University of Illinois Extension "Hort Corners" Web site provides a means to search for trees that grow well in Illinois under various stress factors. Trees that tolerate dry sites are provided at this link <http://www.urbanext.uiuc.edu/treeselector/bytolerance.cfm>.

(Nancy Pataky)

## INSECTS

### Bagworms

Well, it is that time of year to be thinking about dealing with . . . bagworms (*Thyridopteryx ephemeraeformis*), in the southern and central portions of Illinois. Newly hatched caterpillars (or larvae) are difficult to detect because they blend in with plant foliage. The caterpillars climb to the tops of trees and dangle (“hang out”) on 1-to-3-foot strands of silk. These strands eventually are caught in the wind and detach, becoming streamers that keep the caterpillars aloft for hundreds of feet to many miles, depending on updrafts and wind speed (or velocity). This process is referred to as “ballooning.” Bagworms float until the silk catches on an object or plant. It is important to note that caterpillars can balloon in the spring from nearby or even distant trees. The young caterpillars are small and cause only minimal damage to foliage. They feed on the epidermal and mesophyll layers, creating light areas on leaves. It is recommended to avoid spraying an insecticide for at least 2 weeks after egg hatch, as this allows sufficient time for the caterpillars to complete the ballooning process, settle down, and initiate feeding. An application during this time provides a high level of control. A second application may be needed a week or two later.

Female bagworms still hanging on trees from last year may contain from 500 to 1,000 eggs. Newly hatched caterpillars have emerged from the bottom of the bags in late May, about 2 weeks earlier than usual. They should be hatching out in northern Illinois in early June. Each caterpillar creates a tiny silk bag, or case, covered with material from the host plant it is feeding on; the caterpillar remains in the bag for the rest of its life. Young caterpillars are 1/8 to 1/4 inch long and initially feed on the epidermal tissue on one side and the mesophyll layer, causing leaves to appear whitish before turning brown. Young caterpillars typically start feeding at the top of trees and shrubs.

Older larvae are 3/4 to 1 in. long and consume entire needles or leaves—mainly stripping the branches at the top of the tree. As the caterpillars mature, and the food source declines, their damage progresses downward on the plant. Stripped conifer branches usually die. A severe bagworm infestation can completely defoliate a plant, which may result in death of branches or the entire plant. This is especially true for evergreens that don’t normally put out a flush of growth following defoliation by bagworms. Infested deciduous trees and shrubs generally produce new growth and are able to survive. Bagworm caterpillars feed for about 3 months. On certain plant species, female bags are found at the top, male bags near the bottom of the plant canopy. This arrangement makes it easier for females to disperse effectively a pheromone, which attracts males.

In late summer, around mid-August, bagworms pupate inside the bags. It takes about 7 to 10 days for bagworms to change from pupa to adult, depending on the temperature. The males, “ugly” black moths with clear wings, emerge through the bottom of the bag and fly off to mate with females. Females never develop into winged moths and lack eyes, wings, legs, and antennae—they just remain inside the bag, producing eggs before dying. Eggs are the overwintering stage. There is one generation per year in Illinois.

Handpicking and destroying bags from fall through midspring is very effective in removing the overwintering eggs before they hatch. Bags should be placed into a plastic container and disposed of quickly.

Insecticides recommended for controlling bagworms include *Bacillus thuringiensis* var. *kurstaki* (Dipel or Thuricide), cyfluthrin (Tempo), trichlorfon (Dylox), and spinosad (Conserve). Insecticide applications are most effective on the young caterpillars. Older caterpillars, in bags that are at least 3/4 in. long, are more difficult to control. Additionally, females tend to feed less as they prepare for reproduction—thus reducing their susceptibility to insecticide sprays. The bacterium *Bacillus thuringiensis* is effective on young caterpillars, but the material must be ingested—so thorough coverage of all plant parts is critical. Spinosad works by contact and ingestion, and is very effective in controlling bagworms. Cyfluthrin and trichlorfon are recommended for larger caterpillars. Again, thorough coverage of all plant parts is essential, especially the tops of trees, where bagworms typically initiate feeding. As previously mentioned, insecticides should be applied about 2 weeks after eggs hatch. This allows the bagworms to blow around, permitting the caterpillars to complete the ballooning process. Insecticide applications made too early usually result in the need for a second application. With their early egg hatch this year, it is recommended to apply at this time in southern Illinois; in mid to late June in central Illinois; and in late June to early July in northern Illinois. Scouting trees and shrubs within 2 weeks after an application will be helpful in making sure that no additional bagworms have blown in and in evaluating control efforts. (Raymond A. Cloyd)

### Scouting Watch

**Cottony maple scale** has produced their large, white egg masses in Ogle County and other areas of northern Illinois. These eggs will hatch in a couple of weeks into light gray crawlers that will crawl out onto the leaves to feed until fall. Crawler sprays are effective but will kill the beneficial twice-stabbed lady beetle. See the article on this insect in issue no. 5 of this newsletter for details.

**Fungus-attacked anthomyiid flies** are being found on the end of the branches of trees and shrubs. Anthomyiid flies are gray and look like house flies but slightly smaller. Many of them are leafminers or root feeders in the larval stage, and they are not generally considered to be pests of ornamental plants. They are attacked by a fungus that apparently causes the fly to crawl to the end of the branch before it dies from the fungus. It hangs onto the branch as it dies and then white fungal hyphae grow out of the insect and further attach it to the branch. Presumably, this allows the spores of the fungus to be spread on the wind more effectively. In some years, these dead flies on the ends of branches are so numerous that the plants appear to be attacked by them. Obviously, there is no damage caused by or control for dead flies. If you have a client that requires their removal, they are usually attached too tightly to be knocked off with a water spray. They usually require hand removal to get rid of them.

**Black vine weevil** adult damage has been found in northern Illinois. The adults eat semicircular and elongated notches out of the leaf margins of yew, euonymus, clematis, and many other plants. The larvae feed on the roots of yew, pruning off smaller roots and eating through the bark of larger roots. They cause dieback and plant death in nurseries. In landscapes, they are usually not numerous enough to cause serious root damage, so control is usually not needed there.

Only females are known of this insect, but they must feed for about 2 weeks before they can lay eggs. During this time, they are susceptible to acephate (Orthene), bifenthrin (Talstar), and cyfluthrin (Tempo). Because the adults hide in the leaf litter on the soil, spray the foliage heavily to allow the insecticide to run off into the leaf litter. Be sure to use enough pressure to penetrate interior foliage, where most of the feeding on yew occurs. Because the adult emerge over a period of time, spray three times at 2-week intervals to obtain a high level of control. (*Phil Nixon and Morton Arboretum*)

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*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.

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