



UNIVERSITY OF ILLINOIS EXTENSION

# HOME, YARD & GARDEN PEST NEWSLETTER

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

No. 17 • September 17, 2008

## PLANT DISEASES

### Verticillium Wilt in 2008

Verticillium wilt is a fungal disease that invades the water-conducting tissues of infected trees, causing blockage, resulting in death of branches or the entire tree. This disease may kill mature trees. The fungal pathogen infects through the roots and eventually becomes systemic in a tree. When you look at the vascular tissue of infected trees, you see dark staining (except ash, which shows no staining). Root injury, site, and environmental stress can mimic Verticillium wilt symptoms. These other, noninfectious problems, however, do not cause vascular streaking as described above. Read issue no. 11 of this newsletter for more details, images, and links.

Hundreds of plant species, including trees, shrubs, groundcovers, vines, vegetables, fruits, herbaceous ornamentals, and flowers, may become infected with this wilt pathogen.

Stressed plants are more susceptible to infection, so we expected to see an increase in Verticillium wilt cases this year as a result of root stress of 2007. The 2008 season started slowly with cool, wet weather. Flooding was an issue in some areas of Illinois; but in general, growing conditions were fine for trees. We started seeing tree stress in midsummer after several weeks of drought.

So far this season, the Plant Clinic staff has isolated *Verticillium* from sugar maple, Japanese maple, three-flowered maple, red maple, ash, rudbeckia, and smoke-tree. Samples hailed from Champaign, DeKalb, Douglas, DuPage, Ford, Hamilton, Lake, Peoria, and Winnebago counties.

There is no cure for Verticillium wilt. Still, there are many cultural and preventive strategies to manage the disease and maybe even help infected trees live with the fungus. Some disagree; but if you can catch infection early, branch removal and pampering may actually save a tree. Always start with healthy plants and avoid susceptible species. Supply balanced fertilization and provide adequate irrigation to improve the health of stressed plants. Remove dead wood to avoid problems with wood rots and decay. When dead wood is removed from an infected tree, it should be burned, not chipped,

and not reused in the landscape. Because the disease is soil-borne, use only resistant species to replace *Verticillium*-infected plants. Some suggestions for replacement plants can be found in *Report on Plant Disease*, no. 1010, "Verticillium Wilt Disease," available in Extension offices or on the Extension VISTA Web site, <http://www.ag.uiuc.edu/%7Evista/horticult.htm>. It is advantageous to control weeds in the landscape because many can serve as sources of inoculum. Dandelions, pigweed, horse nettle, and velvetleaf are all susceptible to *Verticillium*. Do not move soil from an infected area of the garden. This pathogen may be soil-borne and can survive for decades in the soil. Laboratories cannot positively identify this disease on a dead tree but can isolate the causal fungus from live, symptomatic wood. It takes about 7 to 10 days of incubation to make a positive ID in the lab. (Nancy Pataky)

### Fall Canker Cleanup

Now is a good time to evaluate your trees for removal of dead or cankered wood. Stressed wood distinctly stands out now because any foliage that is present is showing slightly premature fall color in contrast to the green foliage of healthy areas.

Cankers are dead areas on a branch or stem. They may be sunken, bumpy, offcolor, or even wet or water-soaked. The wood is dead under the bark of a cankered area. Branches that have been infected by opportunistic fungi often exhibit these cankers. Remove dead or cankered wood now while it is easy to find and while the tree is hardening off for winter. The goal is to prevent wood rot fungi from entering the dead wood and moving into larger branches or trunk tissue.

The fungi that are found in cankers are usually known as stress pathogens. They do not harm the tree or shrub until the plant is stressed. Canker fungi have been shown to be present in some trees without causing a problem until the tree is stressed. Remove dead wood (now) and try to identify and correct the source of stress. Some stress factors might include water imbalance, root compaction, root injury, chemical damage, girdling roots, trunk damage, or root rot. Some of these problems can be corrected while other may not be helped.

Fruiting bodies in the cankered area help us (in the lab) identify the fungus involved. For example, fruiting bodies of the *Tubercularia* fungus may pop through the bark, with the threadlike mycelium of the fungus inside the bark or wood. To get all of the infected tissue, including the mycelium that may not be as obvious, remove a few inches of wood beyond the cankered wood into the healthy tissue. The internal wood that remains should be white, tan, or green. For more information on cankers and wood rots of trees, visit the Extension Vista Web site at <http://www.ag.uiuc.edu/%7Evista/horticult.htm> and scroll down to *Report on Plant Disease*, no. 636, "Canker and Dieback Diseases of Woody Plants," and no. 642, "Wood Rots and Decays." (*Nancy Pataky*)

### Prevent Plant Diseases Now!

Many gardeners wait until a problem occurs; then scramble to correct the situation. This approach is generally costly, time-consuming, and does not produce a healthy plant. Consider instead, some lawn and garden cleanup procedures that help prepare plants for winter and discourage development of disease problems.

1. Keep grass mowed until it stops growing. This helps prevent winter injury and damage from fungal snow mold diseases.
2. Prune oak trees in the dormant season to reduce the risk of oak wilt. Pruning from September to early March is recommended because pruning during the growing season causes sap flow, attracting bark beetles, which in turn may transmit the oak wilt fungus.
3. Prune trees and shrubs to remove all dead and seriously cankered wood, as well as any crossing and interfering branches. Opening up the center of woody plants helps promote faster drying, lets in more light, and reduces foliar and stem diseases. This is a common practice to help prevent fire blight on rosaceous hosts, anthracnose and fungal leaf spots of trees, bacterial leaf spot of *Prunus* species, as well as many other diseases.
4. Provide winter protection for roses, evergreens, thin-barked young trees, and other sensitive plants. Winter injury causes wounds that become infected with secondary canker fungi. Many of the rose cane canker fungi infect such injuries.
5. Prune tree and bush fruits according to recommendations by Extension horticulturists.
6. Remove and burn (where possible), compost, or bury plant debris to help reduce foliar and stem disease

next year. It is usually safe to compost any leaf material; but diseased stem and root tissues should be burned or buried, not included in a compost pile,

7. Look over a variety of seed and nursery catalogs. Select resistant varieties and plant them where you've had problems in the past but have no rotation options. Choosing disease-resistant hybrids, varieties, and species is usually the least expensive and best long-term method of disease control. If you have had problems with scab on crabapple, consider replacement with a scab-resistant variety showing flower and fruit color that you prefer as well. Try to obtain a variety that is also resistant to powdery mildew and rust.
8. Make a map of your flower and vegetable gardens. Rotate annuals to another area of the garden to reduce soil-borne pathogens that cause *Rhizoctonia* and *Fusarium* root rots. Now is also a great time to make soil amendments to improve soil drainage. *Phytophthora* root rot is a known problem in poorly drained areas.

Of course these measures can not guarantee a lack of plant disease in your garden, but they can help reduce disease incidence. (*Nancy Pataky*)

## BIRDS

---

### Yellow-bellied Sapsucker

Yellow-bellied sapsuckers attack Illinois trees during both spring and fall migrations through the state. These woodpeckers typically fly south through Illinois from about mid-September through October, and they fly back north in the spring from early April through mid-May. These starling-sized black-and-white birds typically drill holes (1/4 inch in diameter) in vertical or horizontal rows in the predawn hours. They then feed on the sap as it runs out of the holes. They also feed on insects that are attracted to the sap, but much of their diet consists of tree sap.

In Illinois, these holes are unlikely to damage the health of the tree because the birds are in the state for only a short time. In the far southern United States as well as the far northern United States and southern Canada, where the birds spend the winter and summer, individual trees may be killed from continual drilling and feeding. Trees most often attacked in Illinois are Scotch pine, Austrian pine, and white-barked birches, although many other species are attacked occasionally. Large amounts of sap may run out of the holes made in pine trees, congealing and turning white on the trunk. Although this looks impressive, it appears to have little or no effect on tree health.

Because there is no apparent effect on tree health in Illinois, a viable option is to do nothing. If you want to protect individual trees while the birds are flying through, wrap tree wrap around attacked trunks. Remove the wrap when the migration time has passed; otherwise, moisture underneath the wrap may promote disease. Inflatable owls or snakes may also be effective, as will lengths of garden hose that resemble snakes. For the owls and snakes to be effective, they must be moved almost daily. It is thought that the same bird attacks the same tree each year as it migrates through the area. Thus, a bird watching a tree notices that the owls or snakes haven't moved for several days and concludes they must be dead. The association of individual birds and specific trees also explains why only certain trees are attacked while nearby trees of the same species are unharmed. Remember that yellow-bellied sapsuckers are protected by state and federal laws as well as international treaty, making it illegal to harm or kill the birds. *(Phil Nixon)*

## INSECTS

### Black Cutworm

Black cutworms are numerous on golf-course greens and on some lawns throughout Illinois. They overwinter in the southern United States, and the moths fly up into Illinois in the spring. Black cutworms have multiple generations per year, continuing well into the fall. It was thought that these insects, along with numerous other species, die off as cold weather arrives. With the advent of Doppler radar, miniaturized radio transmitters, and other technology, we now know that at least some of these species migrate south in the fall, as monarch butterflies have been known to do for decades.

As the season progresses, additional moths migrate from more southern states; and those that have already arrived go through successive generations. These factors result in increasing numbers as we go through the growing season. By now, populations are very high.

Black cutworm larvae grow well on creeping bentgrass, perennial ryegrass, and tall fescue, with over 80% growing up to pupate. Almost as many survive on varieties of grasses that contain endophytes. On Kentucky bluegrass, fewer than 10% of the larvae survive. As a result, damage is heaviest on greens and other golf-course areas planted to bentgrass. In home lawns, even those planted to tall fescue and perennial ryegrass, damage is not as easily noticed because of the height of cut.

Damage on greens appears as circles 2 to 3 inches in diameter where the grass blades are eaten down to the

crowns. Frequently, there is a shallow hole in the center of the circle. Cutworm caterpillars feed at night, tending to feed in a circle, as far as they can reach, frequently with their posterior end inserted in a shallow hole. These damaged areas are most numerous within 30 or so feet from the green apron because the cutworms like to hide in the taller turf around the green during the day, commuting onto the green at night to feed. Feeding damage looks like ball marks where a golf ball skipped across the green, rubbing off the grass blades. Thus, golfers do not recognize the damage as being caused by an insect.

More serious damage is caused by insect-feeding birds, such as starlings, robins, grackles, cowbirds, and blackbirds. In feeding on the cutworms in the early morning, they pull up a small divot 1/2 to 1 inch across. These little divots are large enough to deflect putts, causing golfers to get upset. The sand in these divots also quickly wears the edge of greens mowers blades, causing the blades to require sharpening and replacing more often.

Cutworm feeding damage to lawns is frequently hidden by the taller grass, although lawns may have irregular, roundish, brown areas where the green grass blades have been eaten, revealing the thatch. Because lawn turf is rooted deeper and more firmly, it is unlikely to be pulled out by the birds, as occurs on golf greens. Instead, round holes about 1/2 inch in diameter are punched through the turf by the birds' beaks as they search for larvae. Lawns with many cutworms look dingy from a distance due to the brownish to blackish holes where the underlying soil shows.

Black cutworm larvae are dark-colored and heavy-bodied. They can be flushed from the turf with a teaspoon of 5% pyrethrum or 1 tablespoon of dishwashing detergent in a gallon of water. Distribute this evenly over a foot square of turf; a watering can works well. Within a couple of minutes, the irritated larvae come up onto the turf surface. Only two to three cutworms per foot square are enough to result in noticeable injury. An application of bifenthrin (Talstar), carbaryl (Sevin), deltamethrin (DeltaGard), halofenozide (Mach 2), spinosad (Conserve), or trichlorfon (Dylox) controls the caterpillars. Insecticidal nematodes are also effective.

Cutworm moths lay their eggs near the tip of grass blades, so frequent mowing and clipping removal reduce caterpillar numbers 75 to 97%. Dump clippings baskets well away from greens and other bentgrass areas. Over 90% of the eggs survive the mowing process, so dumping the clippings at the green apron results in caterpillars that can easily attack the green. Homeowners who collect grass clippings and use them to mulch around vegetable plants and flowers concentrate the eggs into

smaller areas, resulting in heavy feeding damage from the resulting larvae to their garden plants. Topdressing the green with sand also reduces the number of cutworm larvae. (Phil Nixon)

### Late-Season Caterpillars

Various caterpillars attack trees in late summer and early fall. These include fall webworm, yellownecked caterpillar, walnut caterpillar, sumac caterpillar, and white-marked tussock moth. The damage caused by these caterpillars to attacked trees is relatively slight because the leaves have already produced most of the food for the tree that they will produce. The loss of leaves at this time of year is not very important to the tree. The main tree health concern about late-season defoliation is that the tree will break lateral buds and replace the lost leaves.

Although refoliation is likely to occur earlier in the season, by September that becomes much less of a possibility. Aesthetic damage even becomes less important at this time of year because the public, including clientele, tends to spend much more time indoors after Labor Day, resulting in reduced concern about the appearance of the landscape.

For all of these reasons, treatment is usually not needed for late-season caterpillars. If control is needed, *Bacillus thuringiensis* 'kurstaki' (Dipel, Thuricide), spinosad (Conserve), carbaryl (Sevin), and various pyrethroid insecticides are effective. (Phil Nixon)

---

*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, (217)333-0519, plant pathologist; 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, 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 © 2008, Board of Trustees, University of Illinois