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## Oak Wilt

Oak wilt is a devastating fungal disease that essentially plugs up the vascular system and disrupts the water and nutrient flow within oak trees. The disease progresses quickly, killing mature trees in the red oak group within one season.

Leaf symptoms vary depending on the oak species involved. Generally oaks in the red oak group (pointed leaf lobes) 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. 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 oak group (rounded leaf lobes) 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 dieback and stressed appearance.

Accurate diagnosis and confirmation of the disease is essential. There is no cure

for oak wilt. Therefore, infected trees are often promptly removed. Incorrectly diagnosing the disease can result in the unnecessary removal of a healthy tree as well as expensive treatments to protect nearby trees. Always consider the possibility that other insect and disease pests can cause symptoms similar to those of oak wilt. Examples of common oak pests and problems can be found within the [Plant Clinic Report on Oak Problems](#).

A plant diagnostic laboratory can confirm or rule out the presence of oak wilt. The University of Illinois Plant Clinic receives and tests an average of 50 samples per year for oak wilt. Of those sampled, only a small number, 10-15 trees, are confirmed to have the disease. This is good news for many homeowners and arborists in that the majority of sampled trees are not found to be infected with the disease and do not require tree removal or expensive and unnecessary treatment options. The samples not found to be infected with oak wilt either had symptoms that were caused by other pests or the test results were inconclusive due to poor sample quality (too dry, wrong portion of the tree sampled, not shipped correctly, etc.). Inconclusive results can be avoided by reviewing the tips and suggestions for oak wilt sampling provided within [Issue 10 of the 2013 Home Yard and Garden Pest Newsletter](#).

For more information about oak wilt, consult *Report on Plant Disease*, no. 618,

["Oak Wilt and Its Control"](#) (Adobe PDF).  
(*Travis Cleveland*)

## **Christmas Tree Pest Manual**

The newly published third edition of the Christmas Tree Pest Manual is now available. The first edition was published in 1983 and soon became the go-to guide for insects and mites that attack conifers in the Midwestern and north-eastern U.S. It also addresses diseases and environmental problems. The new third edition is likely to continue that excellence.

Although its title addresses Christmas trees, it is a tremendous resource for nurseries, arborists, landscapers, and any professional who grows or maintains pines, spruces, and firs. It is profusely illustrated with color photos and useful graphs. The pest information is easy to read and very informative.

To receive a printed copy of this USDA publication, send your mailing address to: Doreen Deutsch @ [ddeutsch@fs.fed.us](mailto:ddeutsch@fs.fed.us) or call 651-649-5244. It is also available as a pdf on the Internet at <http://www.na.fs.fed.us/pubs/2014/Christmas%20Tree%20Pest%20Manual%203rd%20Edition.pdf>. (*Phil Nixon*)

## **Pine Bark Adelgid**

Pine bark adelgid, also known as pine bark aphid, is common this year, particularly in western Illinois. It feeds primarily on the sap of twigs, branches, and trunk of Eastern white pine. It also attacks Scotch and Austrian pines as well as spruces. Very large infestations can kill trees.

Nymphs overwinter on the bark and mature into adults in the spring. Eggs hatch into crawlers that blow to other trees and plantings. They can alternate from pine to spruce, but they do not complete their life cycle on spruce. They normally have successive generations on pine.

Adelgids are closely related to aphids, feeding on plant sap with needle-like piercing-sucking mouthparts. Adelgids have very long mouthparts, allowing them to penetrate the wood beneath the bark on trunks of even mature pines. These one-eighth inch long, soft-bodied insects are covered with white, waxy strands, giving heavily-infested trees a flocked appearance.

Their feeding on plant sap results in their excretion of honeydew. Honeydew is essentially plant sap with most of the nitrogen and much of the water removed. This concentrated sap or light syrup-like honeydew is sticky and sugary. Black sooty mold grows on honeydew coated needles and bark. Unless there are obviously attacked trunks covered with the white insects, the black sooty mold covered needles and stems draw the scout's eye to discover pine bark adelgid. Because the insects contain large quantities of this honeydew as well, brushing your hand across an active infestation results in your hand being covered with gooey, sticky honeydew.

Pine bark adelgids tend to be most common in shaded areas such as the north and east sides of buildings where the relative humidity is higher. In woodlots, they are likely to be on the north and east edges where reduced sunlight and shading by understory edge trees and shrubs keep the relative humidity higher. Similarly, in sheared Christmas

trees, one must part the foliage and scout the inner portions of branches and trunk to detect this pest. It is likely that the periodic rainfall and cooler weather conditions this summer have encouraged adelgid proliferation.

Pine bark adelgid is relatively easy to control once noticed and identified. Acephate (Orthene), acetamiprid (TriStar), malathion, and summer spray oil are effective. During the winter, dormant oil spray provides control. Timing is not critical as the insects are exposed and susceptible to insecticide sprays year-round. Dead pine bark adelgids have such long, needle-like mouthparts that they remain attached to the tree, so dead infestations appear like active ones. Control can be easily determined by brushing your hand across the infestation. Dead infestations will be dry and dusty instead of gooey and sticky. *(Phil Nixon)*

### **Sod Webworm**

Sod webworm moths are common at this time in turf and around lights. In dry areas of the state, scout for sod webworms and their damage in nonirrigated turf.

Sod webworm larvae are very susceptible to diseases, particularly under cool, damp conditions. The most common sod webworm in Illinois is the larger sod webworm, the species primarily discussed here. Other Illinois species of turfgrass-feeding webworms appear similar but may be slightly different in size and may prefer some turfgrass species to others.

Sod webworms overwinter as larvae in the thatch. Sod webworm larvae are

slender caterpillars that are grayish to tan and covered with brown spots. They construct a silk-lined burrow in the thatch, where they hide during the day. At night, they leave their burrow to feed on grass blades. They cut individual grass blades within 1/8 inch of the plant's crown and take many of the blades back to their burrow to eat. Fully grown, 1-inch-long caterpillars pupate in their burrow, emerging later as adult moths.

The adult moths are tan, about 3/4-inch long, with a wingspan of about 1 inch. The palps on the front of the head are elongated, giving the moth the appearance of having a long snout. When at rest, the wings are held tightly against the body so that the body appears tube-shaped; these moths are commonly called tube moths or closed-wing moths. They sit in the turf during the day. When disturbed, the moths rarely fly higher than 5 or 6 feet above the turf and fly in a jerky up-and-down manner before settling back into the turf within 30 feet of where they were disturbed. If a moth is approached slowly and quietly, it can be observed at rest, typically sitting crosswise on a grass blade. The moths mate, and females drop eggs into the turf as they fly closely above it. Within a couple of weeks, the eggs hatch into larvae. There are usually three generations per year in Illinois.

Damage appears as scattered brownish areas of turf, with these areas combining into large brown areas later. Close examination reveals firmly rooted turf that appears brown because many of the grass blades are missing and the thatch is exposed. Close inspection of the crowns of the turfgrass plants reveals very short stubs remaining from green grass blades eaten off by the sod webworm larvae. Green, pinhead-sized, fecal

pellets will be easily seen at the base of the plants. Damage may occur from spring into fall but is most common in midsummer. Areas of turf that have turned brown due to hot, dry weather should be checked frequently for sod webworms. It is common in Illinois that some of these areas will fail to green up with subsequent rainfall or irrigation due to sod webworm attack.

Scouting for sod webworms can be accomplished through several methods besides observing damage signs. Probably the most common method of scouting is to observe when sod webworm moths are present in large numbers in turf areas. Through turf maintenance such as mowing or fertilization, the moths fly up and are easily recognized by their jerky, short flights. Note heavy numbers on the calendar, and plan to scout for larvae or treat with insecticide about 2 weeks after large numbers of moths are seen. Because the moths in the turf lay eggs that take 2 weeks to hatch, a treatment after egg hatching effectively controls a large population before they cause meaningful damage. If the weather is cool and damp, scouting for larvae is recommended before treatment occurs because insect development may be slow and diseases kill many of the larvae.

Insect-feeding birds, particularly starlings, feed heavily on sod webworm larvae in turf. The presence of starlings and other birds in large numbers on turfgrass areas for several days in summer is a clue that they may be feeding on sod webworm larvae. Close examination of the turf reveals holes (poked into the turf by beaks) that are 1 to 2 inches deep and almost 1/2 inch in diameter. Further turf examination should reveal sod webworm feeding damage or frass.

Although sod webworm larvae are difficult to locate in the thatch, they can be brought to the surface where they can be easily seen and counted. Irritating drenches of 1 teaspoon of 6 percent pyrethrin (or 1 ounce of liquid dishwashing detergent per gallon of water) applied to 1 square foot of turf drives out the sod webworms. Two or more sod webworm caterpillars per square foot are sufficient to cause obvious damage.

Control sod webworms by applying bifenthrin (Onyx, Talstar), carbaryl (Sevin), chlorantroniliprole (Acelepryn), clothianidin (Arena, Aloft), deltamethrin (DeltaGard), indoxacarb (Provaunt), lambda-cyhalothrin (Scimitar), spinosad (Conserve), or trichlorfon (Dylox) to the turf, usually as a liquid, and allowing it to dry on the grass blades to poison the sod webworm larvae when they feed on the grass blades at night. Granular insecticides are effective, but they must be watered lightly to activate them.

Nonchemical control in Illinois occurs naturally almost every year by microsporidian diseases of the sod webworm larvae, particularly during the winter. In addition, birds and predatory insects are effective control agents. The insecticidal nematode, *Steinernema carpocapsae* (Biosafe), is also effective. Endophyte-containing turfgrasses, such as some fescues and ryegrasses, effectively control sod webworm larvae as well. (*Phil Nixon*)

### **Lesser Known "Weeds" -- Fireweed**

*Erechtites hieracifolia* (L.) Raf. ex DC. is commonly known as fireweed, pilewort,

American burnweed, or simply *Erechtites*. Although it has been found in most Illinois counties, it's not a very common plant to most and because it's not easily recognized by many, it is often referred to as being a mystery weed. In fact, this "weed" is not included in most of the weed identification reference books I own. Still, I get asked about it yearly.

The one book I found this plant featured in is, "Wild Urban Plants of the Northeast: a field guide". The one and only time I saw this plant growing was near Lincoln Park Zoo in Chicago which is fitting perhaps. It prefers full sun, moist soils, and disturbed sites and is commonly found growing in sidewalk cracks, along fences, and in minimally maintained landscapes. This plant is well known for its ability to germinate on land that has recently burned, hence the name fireweed. Also known as pileweed, this plant was used by native Americans and early European settlers to treat hemorrhoids (piles).

Fireweed, an aster, grows rather tall and unbranched, reaching 6 to 8 ft. The leaves and stems are bright green and smooth. The leaves can grow up to 6 to 8 inches long by 2 to 3 inches wide. They are alternate, oblong and pinnately lobed with irregular teeth along the margins. The roots are shallow and fibrous.

The flower heads are somewhat unique in that they are tight and tubular-shaped, enclosed by smooth, green bracts. Panicles of these are found in the upper stems. The corollas (individual disk florets) stick out just barely above the bracts. The flower heads develop into white puffballs. The seeds are then carried by the wind with the aid of the soft, white hairs. The flowers appear in late summer or early fall and aid greatly in identification of this plant.

For more information and pictures of this plant, please see: <http://www.illinoiswildflowers.info/weeds/plants/pilewort.htm>. (Michelle Wiesbrook)