Protect Your Trees from Oak Wilt!

If you plan to build on a wooded lot that has oak trees, you should learn about oak wilt—a fatal, infectious disease that can threaten the very trees which make wooded properties so desirable and valuable. Here are some facts you should know:

Oak wilt is widespread throughout the southern ¾ of Wisconsin.

Oaks wounded during construction can become infected with oak wilt. Oak wilt commonly becomes established in new developments as a result of construction damage.

If oak wilt is not already present on your property, preventive measures taken during construction and afterward will help keep your property free of the disease.

If oak wilt is already present, control is best done prior to building, if oak wilt is not controlled, it will continue to spread and kill other oak trees.

What is oak wilt?

Oak wilt is a fungal disease which causes the water-conducting vessels in oak trees to become plugged. Once the vessels are plugged, water movement within the tree stops, causing leaves to wilt and fall from the tree.

Red, black and pin oaks are highly susceptible to oak wilt. Once infected, they can die within a few weeks. White and bur oaks are much less susceptible. If infected, they can take months or years to die, or they may even recover.

How do trees become infected?

Oak wilt spreads in two ways: over land, by sap-feeding beetles that carry the fungal spores from infected oaks to fresh wounds on healthy oaks; and, underground, from infected oaks to nearby healthy oaks through grafted, or interconnected, root systems.

Overland spread

If oak wilt is not already present on your property or your neighbors’, infection via sap-feeding beetles is your main concern. This is the only known way oak wilt can spread across highways, water, open fields or other large breaks in oak tree cover. Oaks in the upper Midwest are at highest risk of overland infection during spring and early summer.

Underground spread

Once a tree becomes infected, the fungus begins spreading to adjacent oaks through grafted roots. In general, any oak within 50’ of one infected by oak wilt is at risk of root graft infection. The risk of root graft infection is influenced by tree size, soil type and the presence of natural or human-made barriers. Once an oak becomes infected, the fungus must be contained or it will continue to spread and kill until it runs out of oak trees capable of root grafting with infected ones. Oak wilt does not respect property boundaries.

How can oak wilt be prevented?

Oak wilt prevention is easy and effective. Do not cut, prune or otherwise wound oaks in the spring and early summer, generally from April through July.* Any activity during this period that cuts or tears through the bark and exposes live wood in oak branches, trunks or roots can place these trees at risk of infection. If an oak is wounded during this period, immediately and thoroughly apply pruning sealer or tree paint over the wound. Torn branches or roots should be cut clean and the cut surface painted. For additional protection, cover treated roots with soil.

* Overland infection can occur after July but is not common. To be very cautious, avoid wounding oaks from April 1st–October 1st

For further information about oak wilt, contact a DNR forester, a consulting forester or arborist, your county UW-Extension office, or visit the site at http://dnr.wi.gov/topic/fora/oakWilt/. The publication, Lake States Woodlands: Oak wilt Management—What Are The Options? (pub. G3590) is available from many county extension offices or on the Web at http://learningstore.uwex.edu/pdf/G3590.pdf.

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Jeanne Gomoll, WI DNR

Root graft barriers must be located and pruned sealer or tree paint in a 1"-wide band around the circumference of the cut surface of any oak stump that is not promptly removed. If trees are cut from April through July, all equipment operators on site should carry prunung sealer or tree paint and immediately apply it to exposed oak wood, should accidental wounding occur. Tar should not be used.

What precautions can be taken to avoid construction damage and oak wilt?

Consider using a consulting arborist for help in protecting your trees. A consultant can assist with the layout of developments and individual building sites. Consultants can also make on-site recommendations to minimize the risk of oak wilt and other construction related damage to trees.

Make sure your concerns will be communicated to subcontractors and all who deliver materials to the site. Inspect the work site often to make sure oaks are adequately protected.

Talk to your builder and contractor about your oak wilt concerns. Make sure your concerns will be communicated to subcontractors and all who deliver materials to the site. Inspect the work site often to make sure oaks are adequately protected.

Determine how much area is needed for buildings and to maneuver equipment. In general, trees within 15' of proposed structures should be removed.

If possible, perform all tree removal prior to April or after July.

Once cut from April through July, immediately apply pruning sealer or tree paint in a 1"-wide band around the circumference of the cut surface of any oak stump that is not promptly removed.

What should be done with diseased wood?

After all root graft barriers are made, diseased trees should be removed. Reproductive spores of the fungus form under the bark of dead oaks the spring following infection. These spore colonies attract sap-feeding beetles to the site, facilitating overland spread of oak wilt.

Proper disposal can be by either of two methods. Before April of the year following infection, completely debark all wood from the cut trees. Smaller material can be chipped. Once bark is removed or wood is chipped, spore formation is unlikely. Alternatively, wood can be cut, split and stacked for firewood; any wood not used by April of the year following infection should be completely covered with a 4-mil or thicker sheet of clear plastic. Bury the edges of the tarp under soil, weighted down with rocks or undiseased logs. Leave the tarp on until all bark is loose. If possible, place your covered woodpile in the sun to speed the drying process.

What about chemical treatment?

A product called Alamo® (propiconazole) is currently labeled as both a preventive and therapeutic treatment for oak wilt. Injected into a healthy tree, Alamo may provide protection. Under certain circumstances, Alamo may prolong the life of an infected tree. For effective treatment, multiple applications may be necessary over several years. Although Alamo shows promise, research on its use in northern oak species is fairly new.

How can wooded homesteads be kept free of oak wilt?

Additional steps can be taken to reduce the risk of oak wilt on your wooded property, even after your house is built. New infections can begin when trees are damaged during spring and early summer storms. Inspect your trees at least once a year, preferably when leaves are down. Look for forked limbs that are beginning to split apart as well as dead branches within striking distance of an infected tree. Sap-feeding beetles can find fresh wounds on oaks within minutes! To prevent infection, pruning sealer or tree paint must be applied to sapwood immediately.

From April through July, all equipment operators on site should carry pruning sealer or tree paint and immediately apply it to exposed oak wood, should accidental wounding occur. Tar should not be used.

Disrupting root grafts between infected and healthy oaks is the most effective control known. A vibratory (cable) plow or trencher with a minimum 5' blade is best for severing root grafts. If available, a plow is preferred over a trencher because it moves faster, cuts at a more consistent depth and creates minimal aboveground disturbance. Because aboveground symptoms do not reflect the extent of actual infection, proper barrier placement is not simply a matter of cutting between wilted trees and apparently healthy ones. By the time symptoms are visible, oak wilt has already spread throughout the tree and has very likely infected neighboring oaks. Barriers should be constructed only by someone specifically trained to do so. Contact your local DNR, county extension or municipal forestry office for names of any root graft barrier contractors serving your area.

Root graft barriers must be located and constructed properly to control underground spread of oak wilt!

Simply cutting down an infected tree does not stop the underground spread of oak wilt! In fact, cutting an infected tree without first placing root graft barriers can accelerate the spread of the fungus into neighboring trees.

Trencher; [right] Vibratory plow; [left] combination; [below] edge of drip line.