

## Oak Wilt Worries

Oak wilt is a serious concern in western Wisconsin, where it kills hundreds of oak trees every year. Similar to Dutch elm disease, which wiped out huge numbers of elm trees, once an oak tree contracts oak wilt, there is no cure. However, there are some measures that can be taken to help prevent trees from contracting oak wilt in the first place.

Oak wilt is caused by a fungus, *Ceratocystis fagacearum*. The fungus gets into the vascular system of the tree and blocks the transport of water and nutrients between the roots and the branches. Symptoms of wilting, drying leaves typically begin at the top of the tree or at the ends of branches, and progress toward the base of the tree, with the lower branches usually being affected last. Red and black oaks are more susceptible to oak wilt than white or bur oaks.

Infected, dead or dying trees may develop mats of fungus, called “pressure pads”, under the bark, which force the bark to crack open. Sap-feeding beetles are attracted to the sweet odor produced by the fungus. The beetles land on the fungus and pick up fungal spores on their bodies. They later fly to healthy oaks which have been wounded to feed on sap flowing from the open wound. The fungal spores rub off their bodies, and the healthy tree is infected.

While Dutch elm disease is also spread in a similar fashion by the elm bark beetle, the difference is that the elm bark beetle chews it's own wounds into elm trees, creating an entrance for the fungal spores. Control of the elm bark beetle is nearly impossible making the fight against Dutch elm disease difficult. With oak wilt, beetles are attracted to the smell of sap available at wounds caused by some other means, such as storm damage, pruning, or construction damage. For this reason, we can help prevent the spread of oak wilt by protecting trees from injury when the sap feeding beetles and fungus is active.

The following measures will help control the spread of the disease:

1. Avoid creating wounds on trees when sap-feeding beetles and fungal spores are likely to be present. The peak time for the spread of oak wilt is April 15 to July 15. If pruning oak trees is necessary, the best time to do it is during winter, November through March. The trees will have time to heal the wound shut before the insects and fungus become active. If an oak is damaged during the summer, such as by wind, accident or construction, try to protect the open wound from beetles and fungal spores by treating the wound with a tree wound paint.
2. Oak wilt can also spread from a diseased tree to a healthy tree by root grafts. Root grafts can be severed with a vibratory plow which trenches down 4-6 feet and cuts the tree roots, or by use of chemical

fumigants such as Vapam. A certified tree service will be necessary to treat root grafts.

3. Remove diseased trees as soon as possible. Girdle dying trees at the base through the outer sapwood to prevent the fungus from getting into the root system, where it can spread by grafts to other trees. Take care in removing the tree so that other trees are not injured in the process. If this will be difficult, wait until winter to remove the tree. The wood can be used for firewood or harvested for lumber, but the wood should be processed as soon as possible, with firewood being split and allowed to dry. Moist wood with bark still attached will allow fungal pressure pads to form under the bark, creating a source of fungal spores that can infect other trees.

Browning, drying leaves on oaks do not necessarily mean the trees are infected with oak wilt. Anthracnose is a fungal disease, which causes oak leaves to curl and brown. However, while oak wilt generally starts at the top of the tree, anthracnose starts at the bottom, usually following late spring/early summer rains when humidity is high near the ground. Anthracnose is generally not serious, and the trees will break new buds and recover fully once the dry summer weather moves in.

Oaks will also show dieback and wilting symptoms if their roots are damaged in some way. Common causes of root damage are changes in soil levels above the roots, construction damage to the root system, or changes in soil moisture levels. Insect borers, especially the two-lined chestnut borer, can also cause symptoms similar to oak wilt.

For more on oak wilt and its control, contact your local county Extension office.