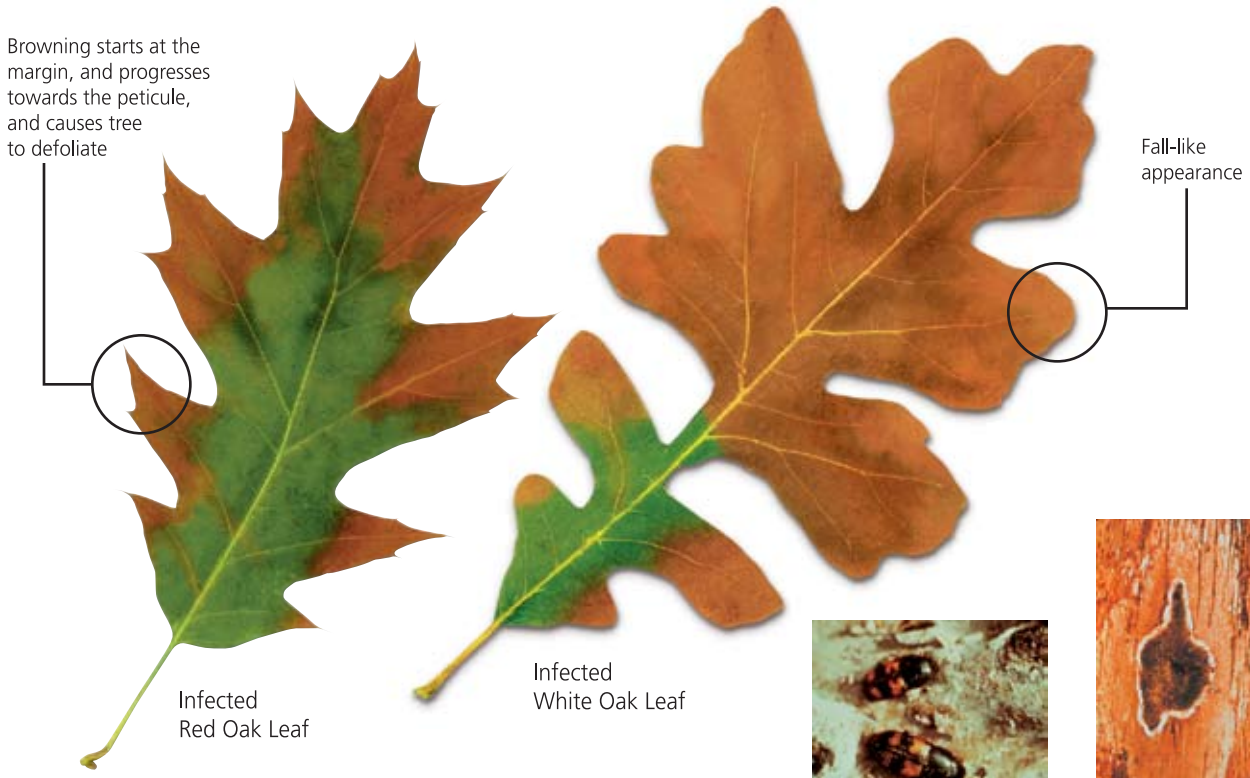
Sherdec Tree Service LLC

recommends Alamo® fungicide for treating and protecting from Oak Wilt

Diagnosis and Treatment of

Oak Wilt



Nitidulidae beetles

Fungal spore mat

What causes Oak Wilt?

Oak wilt is a lethal disease caused by the fungus Ceratocystis fagacearum. The fungus invades and disables the water-conducting system in white, red and other oak species. Different species of oaks vary in susceptibility to the disease. Red oaks typically die within 4 to 6 weeks of initial symptom development, while white oaks may survive 1 to 6 months before they defoliate and die.

Most of the spread of oak wilt is through root grafts between interconnected and grafted root systems. Root graft disruption and fungicidal treatments aid in preventing the spread of oak wilt.

How Does Oak Wilt spread?

Sap feeding beetles (Nitidulidae) are the most common insect vector, but bark beetles (Scolytidae) have also been reported as a vector. They feed on fungal spore mats that form between the bark and the wood of the oak, and carry oak wilt spores to wounds on uninfected trees. In the northern range of oak wilt, overland transmission takes place throughout the spring and early summer, while in Texas it can occur any time of the year.

Because beetle vectors (carriers) are attracted to fresh wounds it is important not to prune oaks during the season that spore mats are present. In the north, prune only during the dormant season; in the south pruning is recommended only during December and January. Pruning paint is only necessary for wounds occurring during the growing season in the north, however in the south seal all wounds regardless of the season.

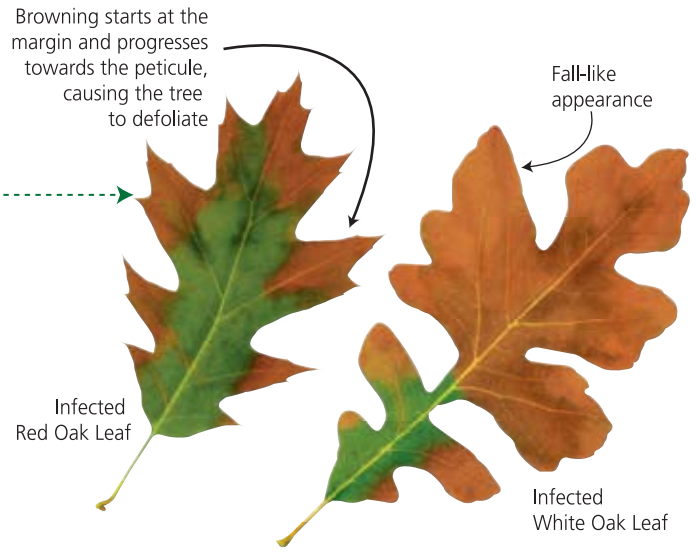
Root graft transmission is the most common mode of infection. Over 90% of all new oak wilt infections are transmitted in this manner. A root graft is formed when the roots of two trees of the same species meet and fuse together. The disease is then able to move from an infected tree into an uninfected tree.

Roots grafted together
(spreading disease to each other)

Management of Oak Wilt

1. Prompt Diagnosis

The primary symptom of oak wilt is the wilting and defoliation of the leaves. Browning begins at the margin of the leaf and moves inward, and there is a distinct line between dead tissue and living tissue. Leaves normally fall before they have completely browned. In red and pin oaks, wilting progresses from the top of the canopy downward, while in the white and bur oaks the wilting may occur on branches scattered throughout the tree. Streaking of the sapwood, beneath the bark is a sign of the defense response of the tree, and provides further evidence of oak wilt. An additional sign of the disease is the presence of fungal spore mats on red and pin oaks. They split the bark open and attract insects with their fruity odor.

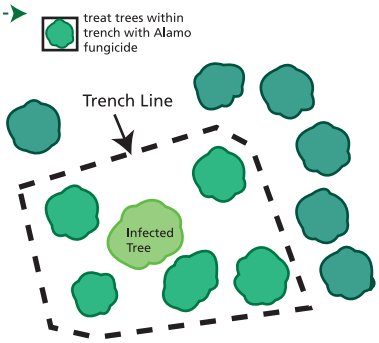


2. Isolate

An important aspect of oak wilt control is physical disruption of the root grafts between infected and healthy trees. Trees within the trench line, trees that cannot be trenched, and small groups of trees are good candidates for Alamo® Macro-Infusion.

3. Sanitize

Spore mats are produced only on members of the red oak family, and they are the fungal source for all new infection centers created by beetles. It is important to remove all recently killed (within 1 year) or dying red oaks after separating root grafts. Remove the bark of red oaks that are to be used for firewood or seal the pile with plastic for one year to kill the fungus and prevent contaminated beetles from escaping.



4. Protect

Scientific research conducted at Texas A&M, University of Minnesota and US Forest Service has shown that Micro-Infusion with Alamo® fungicide can be used as an effective tool for managing oak wilt and will protect many trees that may otherwise be at risk of becoming infected with the disease.

The Alamo® Macro-Infusion System

protects symptomless red oaks at high risk for infection by coating the water conducting tissue where the fungus grows. It can also be used therapeutically to save white oaks that have suffered a small amount of crown loss. It is essential that the chemical is distributed throughout as much of the tree as possible. The best method to accomplish this is a macro-infusion of Alamo® into the root flares of the tree.

1. Excavate around base of the tree to expose the root flares.

2. Drill a series of small 1" deep holes around the tree at the root flares.

3. Insert infusion tees and hook up tubing harnass to pump.

4. Typical application time is 1 to 2 hours.

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