

Oak Wilt

What Causes Oak Wilt?

Oak wilt is a lethal fungal disease of oak trees. 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 4-6 weeks of initial symptom development, while white and bur oaks may survive or take 1-6 months to defoliate and die.

The Spread of Oak Wilt

Sap feeding beetles and bark beetles are common carriers of the oak wilt fungus. Beetles feed on fungal spore mats that form under the bark of red oaks and carry the spores to wounds on uninfected trees. Oak wilt transmission by beetles takes place throughout the spring and early summer. Because beetles are attracted to fresh wounds, it is important not to prune oaks during the season that spore mats are present and when beetles are active. Prune oaks only during the dormant season.

Root Graft Transmission

The oak wilt fungus can move from one tree to another through the root systems, if the oaks are close to each other and belong to the same species. A root graft is formed when the roots of two trees of the same species meet and fuse together. Root graft transmission is the most common way oak wilt spreads to new trees.

Prompt Diagnosis

The best results in controlling oak wilt outbreaks depend on prompt and accurate diagnosis of the disease. The primary symptom of oak wilt is the wilting and loss of leaves. Browning begins on the leaf's margin and moves inward, and there is a distinct line between dead 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 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.

Isolate and Remove Infected Trees

An important aspect of oak wilt control is physical disruption of the root grafts between infected and healthy trees. Disruption of root grafts commonly occurs through the use of trenching machines to cut trenches from 3 to 5 feet deep in the ground. It is not always possible to trench in some locations due to steep slopes or physical obstructions in the landscape. The effectiveness of an oak wilt control program will be greatly increased if it is possible to sever root grafts on the site of an oak wilt infection.



Sap feeding beetle



Deased Red Oak

After root grafts are severed, it is important to remove oaks killed by oak wilt within one year after they die. Spore mats are produced on recently killed red oaks, so infected red oaks must be removed to prevent them from becoming a source of spores that can spread the disease.

If you keep the wood of infected red oaks for firewood, you must remove all bark from the wood, or seal the firewood pile with plastic for one year to kill the fungus and prevent contaminated beetles from escaping.

Oak Wilt Protection and Treatment

How Can I Protect My Oak Tree?

Research has shown that Alamo® fungicide can be an effective tool for managing oak wilt. We have developed the macro-infusion process to distribute the fungicide evenly through the crown of oaks. The oak wilt fungus can remain viable for five years or longer in the root system of oak trees. This makes it necessary to renew the fungicide injections several times at two-year intervals when managing stands of red oaks.

Red Oak Group:

Alamo fungicide treatments are used as part of a full program to prevent establishment of oak wilt in trees in the red oak group. Treat symptom free trees within root graft distance (50 feet) to an infected member of the red oak group. Alamo does not work on red oaks that are showing symptoms. Red oaks should be retreated with Alamo during the second full season after the initial treatment, whether oak wilt is visible on site or not and renewed every two seasons for three treatments.

White Oak Group:

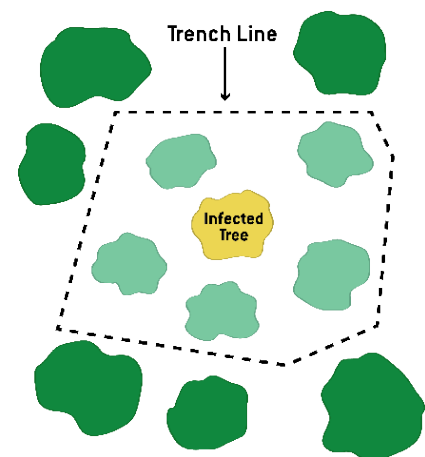
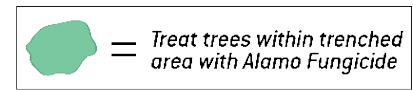
Research shows that therapeutic treatments on bur and white oaks are effective as they are more tolerant than red oaks and may survive for several years after becoming infected. Bur and white oaks may be treated preventively or therapeutically. Treat high value, symptom free bur and white oaks that are within root-grafting distance of infected bur or white oaks. Symptomatic bur or white oaks which display less than 30% canopy loss from oak wilt can also be treated successfully with Alamo. Treating trees with greater than 30% crown loss may reduce the success rate of an Alamo treatment. Infected bur or white oaks may need another treatment if they continue to show symptoms in the second season after the initial treatment.

Possible Reactions To Treatment

Trees treated for oak wilt with Alamo fungicide will occasionally react to the treatment with a scorched appearance on their leaves, typically on leaf sprouts along the main trunk. While this may appear disconcerting, it does not cause permanent harm to the tree. It is a sign that the product has moved through the tree and the dosage used is appropriate to perform its work successfully. Continue to water your tree and provide other supportive care after treatment, following the advice of your Consulting Arborist.



Protecting oaks with Alamo® fungicide



Trenching around infected tree(s)

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