

## The Basics of Oak Wilt

I suspect everyone who has lived for any length of time in the Hill Country has heard of oak wilt, but I also know there are a lot of myths and misinformation about it. Here are some of the more important facts about this disease.

Oak wilt is a disease that affects live oaks and red oaks (blackjack oaks and Spanish oaks in the Hill Country). It is caused by a fungus that grows in the vascular system of a tree and plugs up these systems thus preventing the natural movement of water, nutrients and carbohydrates which usually kills the tree. (A tree's vascular system provides a similar function for the tree that our circulatory system does for us.)

For landowners, the most important things to know are: first, how does the fungus get into the vascular system of the tree and second how can it be prevented from getting into the tree. Once a tree has the disease, there is no cure.

The fungus gets into the tree in one of two ways. When red oaks become infected and are dying, the fungus occasionally forms a fungal mat just under the bark that is full of spores. Tiny sap beetles, which live on sap, are attracted to these fungal mats and get the spores on their bodies. As the beetles fly off looking for another source of sap, if they find an oak tree that has just been cut, pruned or had a limb broken or the bark skinned off, they will land on that wound and the spores will spread into this fresh sap and thus infect a new tree. This is how new oak wilt centers are started.

The second way is if an infected tree is attached to another oak tree by their roots. This can occur if one tree sprouted from the root of the other or if the roots simply grew together and grafted. If this occurs, then the fungus can travel from the roots of one tree into the roots of an adjacent tree. This is much more likely to occur with live oaks than with red oaks. It is common to find groups of adjacent live oaks killed by the disease and that is why the vast majority of oaks killed in the Hill Country are live oaks.

The most effective way, by far, of preventing the fungus from infecting a healthy tree is to paint all wounds, cuts, scrapes, etc., on all oaks immediately, thus preventing the sap beetles with spores on them from getting to fresh sap. There is a lot of evidence that a large proportion of all new oak wilt centers are in fact started by people pruning or wounding trees and not painting the wound immediately.

If oak wilt has already infected neighboring live oak trees, there are two possible ways to prevent it from infecting others nearby. The timing and the distance between the trees is very important in determining the probability of success. If it is determined that a tree you wish to save is apparently healthy and is likely to be connected to a diseased tree, then injecting the fungicide Propiconazole 14.3 into the vascular system of the healthy tree, at the right time, has a relatively good chance of killing the fungus before it

damages the tree. Note that this is not like a vaccination; trees don't have immune systems. You are simply placing the fungicide where it can contact the fungus before the latter has a chance to damage the tree. The fungus does not live in the ground.

An alternative procedure that can protect several trees at once may work if all the conditions are right, and that is trenching which involves digging a deep trench between the diseased tree(s) and the healthy ones.

There is not enough space here to discuss the details of when and how these possible treatments might be applicable, but these details can be obtained at the very excellent website of the Texas Forest Service, [www.texasoakwilt.org](http://www.texasoakwilt.org). Also, for an expert opinion from someone without any economic interest in your trees, call the local Texas Forest Service agent, Mark Duff, at 210-494-1742.

White oaks (post, shin, chinquapin,) are less frequently affected by oak wilt than red oaks and live oaks. Recently, Lacey oaks have been found to be infected with oak wilt..

There is also another fungal disease called hypoxylon that usually only attacks stressed trees, but does not travel through the roots like oak wilt, so only individual trees are affected.

Until next time.....

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