



If I tell you that some of our trees are at risk as a result of a fungus called *Ceratocytis fagacearum*, it probably isn't going to mean much. If I tell you that it can cause devastation in our oak stands, you will be curious. If I tell you that it results in a disease called oak wilt and can, quickly, be quite fatal to the beautiful oaks – I will probably get your attention. We have had environmental and weather conditions that may encourage problems that will mimic the symptoms often associated with a field diagnosis of oak wilt. So, how do you determine if oak wilt is a problem in your landscape and what do you do about it...ask questions and look at your trees. What is oak wilt? How does it spread? What trees are affected by this disease? What can be done about it?

What is oak wilt? As I mentioned above – it is a disease of oak trees that is caused by the fungus *Ceratocytis fagacearum*. This fungus is believed to be native to the United States and has been reported throughout the mid region of this country from Texas to Minnesota and from Ohio to the Rockies. After entering an oak's sapwood (the internal tissue that conducts water), the fungus causes a plant response to this invasion that results in a closing off of the affected conductive tissues. By closing these areas off, the plant – oak trees – block water from reaching the branches out past the point of infection. This causes the externally visible symptoms of wilting leaves and often branch death. As the fungus moves through the sapwood, more areas are affected, and more symptoms are visible. Often the first areas to show symptoms of oak wilt are parts of the crown, or very top of the tree canopy, or an outer branch. Wilting is generally and most often noticed in July, although external symptoms can occur anywhere from early in the spring to very late in the growing season. If your tree has oak wilt, you may see it limp along for many years (happens more often in the white oaks), sometimes only losing a few branches here and there. Or, your tree may experience an almost immediate death – start to finish within one growing season (happens more often in the red oaks).

How is this disease spread? Oak wilt is most commonly

spread through a couple of very effective methods. One way is through movement of the fungal spores. These spores can spew from a fungal pad located under the bark of a nearby infected tree or be unintentionally carried on the bodies of beetles. These beetles are attracted to the scent of freshly opened wood tissue and just through casual contact can infect trees through any open wound anywhere on any oak tree. Another way oaks can be infected is through root grafts. Oaks of a similar type and age have the potential for underground root grafting (the roots grow together, sharing water, nutrients and potential disease problems). As most tree roots can and often do extend out at least 1 1/2 times the height of the tree, there are a lot of roots, distance, and area for potential grafting. Once the fungus is introduced into the tree, it moves through the sapwood to effectively do its dirty work.

What trees are affected by oak wilt? Oak trees. As far as research has been able to determine, there are no oaks that are resistant to oak wilt. So whether you are in Texas and have beautiful Live Oaks or are in Wisconsin enjoying gorgeous Bur Oaks, they all have the potential to succumb to oak wilt to varying degrees. In addition to soil, water, and overall tree health factors, different oak trees react differently to the disease. While the potential may be present for infection in all oaks, the extent varies. In our area, we have two major groups of oaks that can be affected to differing degrees. The White Oaks (Swamp, Bur, and White) and the Red Oaks (Pin, Scarlet, Black, and Red). The white oaks are generally affected to a slower and sometimes less deadly degree than the red oaks. How can you tell which trees you have? In general the leaf "fingers" of the whites are rounded whereas the leaf "fingers" of the reds are pointed. (This would be one of those times when a good field guide to tree identification would be useful – you might want to put it on your gift wish list.)

What can be done about it? Well...the most important and responsible thing you can do about oak wilt is to test for it if you think you may have it in your landscape. Visible symptoms can be deceiving and the only way to be very

sure of a diagnosis is to send a sample to a plant disease lab for testing. In this instance, being sure will help you to make an informed decision about treatment. If oak wilt is positively identified, there are a few options available to you – the decision of what to do is always a tough one. No treatment of any kind is one option. If this is the option that you choose - you may want to consider informing your neighbors as it has probably moved through the closest root grafts by the time you have noticed and tested for oak wilt. If you decide to treat, there are chemicals available for professional application. Keep in mind that chemical treatments are most effective when 10% or less of the entire tree is showing visible symptoms. These chemicals, when appropriately and responsibly applied, are showing real promise in slowing and stopping the spread of oak wilt. I must repeat this – appropriate application, timing, and technique are the keys to success. If you wait too long, the tree will be too far gone to even bother trying to save it. Another option is a method of deep trenching. This works best when you have either a relatively large stand of trees on a larger parcel of land or a neighborhood that works together, across homeowner boundaries, to stop the spread. It involves operated equipment with the capabilities to trench deeply, 5' – 7', cutting through the roots to inhibit fungal passage through grafts. These trenches are dug based on predetermined zone boundaries which take into consideration all oaks in the areas of potential infection and spread. These control techniques are definitely not something that the average homeowner should attempt on their own.

Oak wilt is a problem that has been with us for a long time, and will be around in the future. There are new treatments being discovered every year that are making it easier to protect our trees from deadly problems and diseases. If you have oaks that you love, you owe it to yourself to at least get educated on this disease – you will be prepared and ready if it should ever move into your area.

*If you need assistance in determining if you have oak wilt in your landscape call Lis at 262-745-2904 to set up an appointment for a site visit.*