**Weekly Express-News Article**

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Oak Wilt Prevention and Firewood

With the drought, thousands of Ashe junipers are dying in the hill country. We have also had trouble with hypoxylon fungus and post oak death. All of those tree threats are largely out of our hands. One threat, oak wilt, however is more devastating than all the other problems because if kills our most valuable trees, live oaks, and red oaks. It kills live oaks by spreading through the interconnected roots.

The disease deserves our attention because of the threat to red and live oaks, but also because of its relationship to firewood and the difficulty in treating it, and the ease of prevention.

Infected red oaks let you know when they die. The leaves all turn red when they should be green. They hang on the tree at death and several weeks after.

At some point the bark begins to slough off. Underneath the bark a fungal mat forms on some red oaks. It is the spores on this fungal mat that begins the oak wilt disease cycle.

Sap beetles are attracted to the mat and pick up the disease spores. The sap beetles feed on sap oozing from fresh wounds on other trees. If the beetle lands on a wound on a live oak or red oak, the spores move into the tree and may develop.

On live oaks the disease develops more slowly than on red oaks. Within several years after infection sections of the tree die while the rest temporarily lives on. The symptom is called flagging.

The leaves on the flagged sections have a distinctive symptom, interveinal chlorosis. The area around the veins is yellow or red. The only other situation that causes the same symptom is lightning.

Individual red oaks become infected. Live oaks however are usually interconnected by root grafts so when one tree is infected it becomes the origin of an infection center. The disease moves out from the origin at about 100 feet per year. That means if you diagnose a live oak as infected in your neighborhood, all the live oaks within 100 feet are already infected.

The only way an infection center can be stopped is when it runs out of interconnected trees to infect. In the San Antonio area this usually happens when the infection reaches a road or underground sewer or water line.

Infection centers are treated by digging a trench with a rock saw or back hoe to break the root connections. The trench always has to be over 100 feet from (150 – 200 feet) trees with symptoms.

As you imagine, treating by trenching is an expensive, difficult job. A second treatment option does not stop the spread of the disease but it can save trees within the infection area that are not yet showing symptoms. Trees are treated by injections with propiconazole (Alamo). The process resembles a transfusion with multiple injection points in the root flares feeding the tree the fungicide under pressure. It is a relatively slow and expensive process but worth it to save a landscape full of live oaks.

Treatment of oak wilt is difficult and the results of the disease are devastating, luckily it is easy to prevent. The key to prevention is to paint fresh wounds of live oaks or red oaks as soon as they are made or discovered. A coating of pruning paint or even latex paint on the fresh wound prevents transfer and/or entry of the spores into a newly wounded tree.

Every hour you wait after the wound occurs up to 5 days, the more likely the tree is to become infected. After 5 days it is too late. The spores are in place if a sap beetle carrying spores has visited the wound. After 5 days the tree’s own defenses also are in place on the wound.

As devastating as the disease is, it is only moderately infectious. Hot weather makes the spores inactive and cold weather limits the activity of the sap beetles. The key danger periods for disease spread are in the spring and fall. To be safe however, paint the wounds whenever they occur.

Firewood is an issue because if it is wood from a current season oak wilt killed red oak, the fungal mats can form next spring to provide a source of spores for sap beetles to carry from wound to wound on uninfected red and live oaks. Here is how to prevent the problem with firewood:

* Avoid red oak firewood from unknown sources in the Hill Country unless the wood is dried out from aging over a whole summer. Such wood should have loose bark and be checked and cracked from drying
* If you cannot identify red oak from other woods apply the “avoid green wood from any unknown source” rule
* Make an effort to burn all firewood from unknown sources before March arrives. The fungal mat will only develop in mild weather.
* Dry out the wood yourself by sealing it in clear plastic in February. The heat from the greenhouse effect will dry it out more quickly and the plastic will prevent ingress or egress of the sap beetles.

If you suspect oak wilt or just want to learn more in order to protect your trees, visit the Texas Forest Service Oak Wilt website “[www.txforestservice.tamu.edu](http://www.txforestservice.tamu.edu).” Regional Forester Mark Duff at “mduff@tfs.tamu.edu” is our contact for diagnosis and treatment advice.