

## **Lightning, Construction Pose Threats to Trees**

BARTOW -- Retaining trees in the landscape is very important to the homeowner for numerous reasons. Trees improve the quality of the landscape, they reduce electrical bills, they give off oxygen, they absorb particulate matter (50 pounds per year of dust), they absorb carbon dioxide, they can protect cold sensitive plants in the landscape during winter and they increase property values, just to name a few benefits.

We receive many calls from homeowners who are concerned with the health of their landscape trees. There are a number of reasons why many oak and pine trees, as well as other trees in Polk County die, including lightning strikes, flooding, drought, herbicide injury, insects, diseases and probably the worst one -- construction. Improper pruning can also lead to serious tree problems for a period of years. Here, I will discuss some of the conditions that will kill or damage trees.

As you know, we do have hundreds of lightning strikes in Polk County every summer and sometimes trees are struck. The damage can be obvious, with long splits in the bark exposing the inner wood. There also may be burn marks on the tree. The trees tend to die very quickly and the dead leaves usually remain on the branches for a short period of time after the lightning strike.

Flooding and drought lead to the death of many trees. Last year numerous trees in Polk County were in areas with high water tables, so the roots were in soil saturated with water which makes the tree more vulnerable to diseases and less able absorb oxygen in the soil. This year we have found ourselves back in a drought situation. Drought can cause the inner wood to shrink and pull away from the outer bark which may leave a split, similar to a split from a lightning strike. This cycle of too much water followed by too little water can be very stressful to the tree and may lead to the tree's decline and death during a period of years.

In a developing area like Florida, construction can be a leading killer of trees. Many homeowners and contractors do not realize the damage that can be caused to trees by ditching for utilities within the drip line, driving across the drip line with heavy equipment -- just walking can compact the soil, storing soil under the drip line, which can cause compaction, making grade changes of more than a few inches and spilling chemicals and paints to name just a few construction activities affecting trees.

The single most important thing that can be done to save a tree in a construction area is to determine what trees are to be saved and then construct a tree protection zone around each tree with a substantial fence just outside the drip line. Nothing is allowed inside of that fence during the construction phase. In many cases, just protecting the root zone will save the tree from a slow death five to 10 years later. If you are constructing a new house or having construction done on an old house, including swimming pools, sidewalks, room additions and new utilities, make sure the contractor is aware of tree saving methods before construction begins.

Insect infestations do impact the health of trees but usually the tree is already stressed before it is attacked. There are several beetles which attack trees, but most do not attack healthy trees -- with the exception of the Southern Pine Beetle. This beetle is found in Hernando and Pasco counties on loblolly pines but hasn't gotten down into Polk County, so far. That is probably because Polk County does not have heavy stands of loblolly pine.

Saw dust on the ground under a tree and tiny holes in the bark are indicators that the tree is heavily infested with bark beetles and probably will not survive. There are a few insecticides which can be applied to the trunks of nearby trees which should slow the spread of the pine beetle but these dead and dying trees should be removed quickly.

I receive a number of calls from residents who have trees dying on or near their property. They often make the assumption that some fatal tree disease, such as sudden oak death in California, is killing their trees and will spread to other surrounding trees. So far, Florida does not have any highly contagious disease attacking healthy landscape trees. Most of the problems are related to environmental stress weakening the trees and rendering them susceptible to invasion by insects and plant disease pathogens.

Sudden oak death has been a problem on oak trees in California. Many fear that this disease, which does occur on some ornamentals such as the camellia will enter the state and spread to oak trees. As a matter of fact, an out-of-state shipment of infected camellias was discovered in a Florida nursery. They plants were quickly destroyed and the disease apparently did not spread to any Florida oaks. SOD is capable of infecting Florida oaks in the laboratory under controlled conditions but we don't have any evidence that this California-adapted disease organism will attack Florida oaks out in the wild. I will keep you posted.

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Posted – Polk Voice - **August 15, 2006 3:10:00 PM**