



# Thousand Cankers Disease - 2010 Georgia Update

The recent find of thousand cankers disease (TCD) near Knoxville, TN prompted the release of this document.

## Status in Georgia

- TCD has not been discovered in Georgia as of press time (September 2010). Until this year it was confined to several western states, but made an unexplained jump recently to Tennessee.
- TCD has a high risk of being moved in walnut wood with bark intact. The beetle associated with this disease could be hiding between the bark and wood.

## Walnut Resource at Risk in Georgia

- Black Walnut, *Juglans nigra*, is the most abundant walnut species found scattered throughout Georgia, and it is highly susceptible to TCD. It is found in rich woods, on moist well-drained soils and often around old home sites where they were planted. Some walnut plantations have been established but the growth of the trees is very dependent on soil conditions. Walnut is used for furniture, gunstocks and veneer. Butternut (*Juglans cinerea*) is a minor species of walnut found in the mountains of Georgia. Its susceptibility to TCD is currently undetermined.
- Commercial timber – GA has 126,000 acres of forest land with a black walnut component and 20,000 acres with a butternut component. This represents a total stumpage value of around \$18 million as of August 2010.
- Urban trees – Walnuts are a very minimal part of the urban and community forest. However, black walnut is a common yard tree planted mainly for its nut production.

## TCD Basics

- TCD is caused by the walnut twig beetle, *Pityophthorus juglandis*, and the fungus, *Geosmithia morbida*. The beetle attacks the tree in pine beetle fashion and introduces the fungus. The fungus causes cankers to form. These many cankers eventually come together, girdling the limb or tree. The cankers form in the phloem (inner bark), so don't shave too deeply trying to find it.
- The walnut twig beetle is native to Arizona, California and New Mexico. Adult beetles are very small, about 1/16<sup>th</sup> of an inch, and reddish-brown in color. Look for beetle holes on the bottom side of branches and a slight amount of staining is usually associated with these holes. Many tiny beetle holes can be found on branches and eventually on the tree's trunk as the disease progresses.
- Initial symptoms of TCD could be easily confused with other problems of black walnut trees. This disease complex normally starts in the tree's top and works its way down. The earliest symptom of attack is yellowing foliage that quickly wilts and turns brown. This progresses to branch dieback in the upper canopy. Bark can be stripped away to reveal circular to oblong cankers in the phloem under the bark. During the early stages of decline, branch samples will need to be collected from the top of the tree to make a proper diagnosis.
- The best time to assess trees is early to mid-summer.

- It may take several years after the initial attack for symptoms to appear, but the tree dies fairly quickly after the onset of symptoms.
- Neither the beetle nor the fungus causes damage to the wood.
- This disease could be easily moved in walnut wood with bark intact. Movement of firewood or specialty wood, such as walnut burls, could hasten the spread of this pest.
- Additional information can be found at <http://thousandcankerdisease.com>.

### TCD Prevention/Control

- Currently there are no reliable means for controlling this disease.

If you think you have a TCD infestation, please contact your local Georgia Forestry Commission office (<http://www.gatrees.org/ContactUs.cfm>).



Foliage color change and top dieback associated with the early stages of TCD.

*Photo: Curtis Utley, Colorado State University, Bugwood.org*



Tiny holes left as the walnut twig beetle exits the tree.

*Photo: Whitney Cranshaw, Colorado State University, Bugwood.org*



Adult and larval galleries located just under the bark.

*Photo: Whitney Cranshaw, Colorado State University, Bugwood.org*



Adult walnut twig beetle beginning to excavate a gallery.

*Photo: Whitney Cranshaw, Colorado State University, Bugwood.org*



Removal of the bark exposes the thousands of cankers formed by the fungus. These cankers come together to girdle the tree.

*Photo: Ned Tisserat, Colorado State University, Bugwood.org*