Thousand cankers disease (TCD) is a fatal disease of black walnut (*Juglans nigra*), and most recently, butternut (*Juglans cinerea*). The disease complex involves a fungus that is carried to trees by the walnut twig beetle, causing numerous cankers on branches and killing trees 5 to 6 years after infection. The disease complex is widespread in the western U.S., and has recently been identified in Tennessee, Pennsylvania, and Virginia. As of this printing (February 2012), thousand cankers disease has not been identified in Kentucky.

Infected trees begin to show symptoms within 3 years after initial infection. Early symptoms include branch flagging, wilting or yellowing of leaves, or canopy dieback from the top down (Figure 1). On branches, “thousands” of small cankers (dime to quarter-sized) develop under bark (Figure 2). These cankers are not visible on bark surfaces. Cambium tissue dies as cankers expand to girdle branches. Rapid tree death ensues after initial infection. Tiny beetle exit holes and “galleries” can be found on dead wood.

Thousand cankers disease is an emerging pest that may cause severe losses in forests and landscapes in Kentucky and throughout the eastern U.S. Persons suspecting thousand cankers disease should submit suspect walnut samples to the UK Plant Disease Diagnostic Laboratory (PDDL) through local UK County Extension offices. Recommended sampling protocols are as follows:

Figure 1. Early symptoms of thousand cankers disease on walnut. (Photo: Curtis Utley, CSUE, Bugwood.org)
1. Collect branches as early in the season as possible, when fungal and beetle activity is highest.

2. Submit walnut samples to PDDL (via your county Extension office) as soon as possible after collecting, preferably within 24 hours. Do not store samples due to risk of sample deterioration.

3. Avoid collecting wet or damp samples. Wet wood shipped in plastic bags may become “moldy,” resulting in difficult fungal isolations.

4. Collect samples only from live, symptomatic trees. Select symptomatic dying or recently dead wood, as beetles and fungi will be more prolific in this type of sample. Do not collect fallen limbs from the ground.

5. Branches should be 10 to 12 inches long and at least 1 inch in diameter.

6. Collect 6 to 10 branches from each tree. Do not remove bark.

7. When possible, mark the upward-facing side of each limb. Often beetles are found on the top side of branches.

8. Ship branch pieces in plastic bags with a dry paper towel inside to absorb moisture. Do not wrap branches in aluminum foil.

For more information on TCD, see:
NA-PR-02-10 from the National Forest Service, National Pest Alert from the North Central IPM Center, or the photo gallery at Bugwood Forestry Images.

If you suspect TCD, contact:
Your local County Extension Office or Office of the State Entomologist

Adapted from:
University of Tennessee Thousand Cankers Disease Survey by J. Grant and M. Windham

Issued February 2012

Educational programs of the Kentucky Cooperative Extension Service serve all people regardless of race, color, age, sex, religion, disability, or national origin.