

## Where is Thousand Cankers?

Since the mid-1990s, TCD has caused the widespread death of black walnut trees in several western states including Colorado; since 2010 it has been found in at least four eastern states. As of May 2014, TCD has not been detected in Kansas; survey and detection work is ongoing.

## How does TCD kill Walnut Trees?

- The disease is caused by a fungus carried by walnut twig beetles.
- The fungus kills small patches of tissue under the bark where the beetles attacked.
- These dead areas — or cankers — under the bark grow together when lots of walnut twig beetles attack the limb.
- Eventually the cankers restrict the movement of nutrients, weakening the tree.
- Black walnut trees usually die within three years after initial symptoms are observed.



Neil Isserlar, Colorado State University

# Thousand Cankers Disease & Black Walnuts: a Deadly Combination!



Diane Warwick, TN Division of Forestry



Whitney Cranshaw, Colorado State University



Adapted with permission from the Missouri Department of Conservation

Kansas State University  
Agricultural Experiment Station  
and Cooperative Extension Service

MF3167

June 2012

K-State Research and Extension is an equal opportunity provider and employer. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and United States Department of Agriculture Cooperating, John D. Floros, Director.

## Help Stop This Killer!

### Don't bring walnut trees or untreated walnut wood into Kansas

TCD spreads when walnut wood containing walnut twig beetles is moved to new locations.

### Don't move firewood

Tree-killing insects and diseases can lurk in firewood. Buy only local wood and burn it all.

### Be aware of state quarantines

Several states, including Kansas, restrict the movement of walnut wood. Check with your state department of agriculture for more information.

### Investigate possible TCD infections

If you believe your walnut tree is infested with TCD, take photographs of the entire tree, a close-up of leaves, and any other symptoms. Email photos to [jon.appel@kda.gov](mailto:jon.appel@kda.gov) or contact your Kansas Forest Service forester.

Gradually shaving bark from the branches reveals the cankers underneath

## Please Note

Neither the walnut twig beetle nor the fungus have been detected within nut hulls or meat. Also, the beetle tunneling and the fungal growth and staining are primarily limited to the tissue under the bark and has little effect on the value of the wood.

## What is TCD?

Thousand cankers disease (TCD) is fatal to black walnut trees. It is caused by a fungus carried by the walnut twig beetle. The name "thousand cankers" is due to the numerous cankers, or infected tissue, surrounding multiple beetle entry points on branches and main stems.



The twig beetle is the size of the letter "i" on a dime.

Donna Brandt, MDC



Tim Phelps, TN Division of Forestry

# Do You Have a Black Walnut?

13 to 23 leaflets, pointy with toothed edges

Walnut bark is rough, and when the surface is lightly scraped, it shows a chocolate brown color



Black walnut trees grow up to 90 feet tall with rounded, open crown



Simeon Wright, MDC



Nuts with green husks turn black as they ripen

## Thousand Cankers Disease Signs & Symptoms

### For More Information

Log onto:

[www.kansasforests.org/programs/health/tcd.shtml](http://www.kansasforests.org/programs/health/tcd.shtml)  
[www.agriculture.ks.gov/divisions-programs/plant-protect-weed-control/thousand-cankers-disease](http://www.agriculture.ks.gov/divisions-programs/plant-protect-weed-control/thousand-cankers-disease)

Find out how you can help STOP this killer!



Steve Seybold

Early symptoms: mid-summer yellowing and wilting of leaves high in the crown; limbs die back, usually from top downward



Whitney Cranshaw, Colorado State University

As the disease progresses, limbs are killed, which may have dead, wilted leaves still attached; new sprouts may grow from roots or trunk



Whitney Cranshaw, Colorado State University

Removing bark from dying limbs 1 to 2 inches in diameter exposes dark brown cankers around beetle tunnels; cutting too deeply removes cankers