

THE PURDUE LANDSCAPE REPORT

Kretzschmaria Basal Canker: Fast Path to Tree Failure

By: Tom Creswell, creswell@purdue.edu



Figure 1

Brittle cinders and burnt crusts usually bring to mind bad baking experiments, but in this case they are common names for a highly destructive wood rot fungus: *Kretzschmaria deusta*. The names derive from the charcoal-like fungal fruiting structure (the stroma), where spores are produced (Figure 1).

Most wood decay fungi can be classified as causing either a white rot (decay of the lignin) or a brown rot (decay of the cellulose). This classification is important because trees affected by white rots may retain strength in the wood much longer than those affected by brown rot pathogens. *Kretzschmaria deusta* causes decay of both lignin and cellulose simultaneously, leading to a more rapid decline than caused by many other wood decay fungi; and increased risk of tree collapse.

Infected trees may appear completely healthy in the canopy (Figure 2), or may have decline symptoms, including small leaves and dieback. A look at the base of the tree usually shows bark cracking, bleeding cankers and may show decayed wood that appears bleached out. The fungus develops in patches on the bark with new growth ranging from gray to white at the margins and older structures becoming black with small bumps (where

spore bearing structures will develop) (Figure 3).



Figure 2



Figure 3

Several types of trees are susceptible to infection by *Kretzschmaria*, including hickory, tuliptree, sycamore and oak; however, we see it most often on maple (Figure 4) and beech

(Figure 5). The fungus spreads by airborne spores and usually invades trees with wounds or those under stress. From the time of infection until decay becomes obvious may require several years but by the time the fungus shows up significant decay may have already taken place and further decline may be more rapid.



Figure 4



Figure 5

Unfortunately, there are no effective treatments and infected trees will eventually die.

Reference:

<https://ag.umass.edu/landscape/fact-sheets/root-butt-rot-caused-by-kretzschmaria-deusta>

Sinclair and Lyon, Diseases of Trees and Shrubs, 2nd Edition.

It is the policy of the Purdue University that all persons have equal opportunity and access to its educational programs, services, activities, and facilities without regard to race, religion, color, sex, age, national origin or ancestry, marital status, parental status, sexual orientation, disability or status as a veteran. Purdue is an Affirmative Action Institution. This material may be available in alternative formats. 1-888-EXT-INFO Disclaimer: Reference to products in this publication is not intended to be an endorsement to the exclusion of others which may have similar uses. Any person using products listed in this publication assumes full responsibility for their use in accordance with current directions of the manufacturer.

Purdue Landscape Report © Purdue University - www.purduelandscape.com