

**Notes from the
Thousand Cankers of Black Walnut National Conference
November 3-4, 2009 - St. Louis, Missouri
Doubletree Hotel—St. Louis at Westport**

This is based on notes taken by Julia Thompson and David Johnson (both of the Missouri Department of Agriculture) and typed by J. Thompson (CAUTION: This is not a transcript, but notes. Remarks are often paraphrased and may have been accidentally omitted or misunderstood by the note-takers. It has not been compared with the event recording to check for accuracy.)

Tuesday, November 3, 2009

Key to some abbreviations used:

WTB = walnut twig beetle = *Pityophthorus juglandis*

TCD = thousand cankers disease

Gm = *Geosmithia 'morbida'* ('*morbida*' is proposed species name of this newly discovered species)

BW = black walnut = *Juglans nigra*

Mark Coggeshall (UMC, Department of Forestry Research Analyst / Tree Improvement Specialist) - Black Walnut Germplasm Preservation & Nut Economics.

- Germplasm repositories in CA, NE, KS, MO, and IN
- At the IPPFB (Improving Perennial Plants for Food and Bioenergy) Richmond, Utah
 - Incidence weather dependent; wet June less active, active in cooler temperatures; activity ceases as night temperatures rise
 - *J. nigra X regia* hybrids not resistant
 - *J. regia*—fungus not as active and can be walled off
 - Beetle attacks BW at 6-8 year of age,
 - Rate of colonization in some BW slower than in others
- Germplasm repositories may provide the tool to combat TCD
 - CA repository has only 14 cvs. of BW because of quarantine and climate
 - MO—77 cvs in 1996
 - ◆ 62 + 30 2nd generation selections including 14 timber selections will be out planted in 2010
 - ◆ Nut characteristics are his principle concern in this breeding program
 - KS—20 cvs in 1989
 - NE—20 cvs in data from Lincoln since 1986
 - IN—HTIRC (Hardwood Tree Improvement Research Center) concerned with timber quality
 - ◆ 400 BW accessions
 - ◆ Purpose: To produce open pollinated seeds from elite grafted clonal varieties for forest use
 - ◆ Also working on Butternut (also susceptible to TCD)
 - 500 butternut accessions
 - Butternut hybridizes easily with heartnut
 - ◆ With USDA-CSREES
 - Evaluating pesticides
 - Evaluating susceptibility of *Juglans* and *Carya* to *Geosmithia*
- —sending Ned Tisserat grafts and seedlings

- Identify potential sources of resistance within *J. nigra*, *J. hindsii* and *J. californica*
- Evaluating susceptibility of *Juglans* and *Carya* to *Geosmithia*
 - Screening trees with known mothers and trees with known mother and father; hundreds of pedigreed trees to evaluate; using dormant stem segments to screen for disease resistance looks promising
 - Hybrids may be a source of disease resistance
 - ◆ *J. intermedia* (*nigra* X *regia*) almost no nuts but very vigorous
 - ◆ *J. X royal* (Burbank) (*hindsii* X *nigra*) makes lots of nuts; *J. hindsii* better resistant to *Geosmithia*
 - ◆ *J. major* and *J. nigra* hybridize naturally where range overlaps (*J. major* more tolerant to *Geosmithia*)
 - When trying to look for resistance within the species, looks for full siblings. By knowing father and mother of seedling—map location of genes for traits of interest
 - National Center for Genetic Resource Preservation (NCGRP) in Ft. Collins, Co
 - ◆ Cryopreservation of pollen, seed, cuttings

Question regarding the cryopreservation of scion wood; Answer: not going too well

Comment: two stage freezing may help cryopreserve