

Thousand cankers disease has caused the widespread death of black walnut trees throughout the West and was recently detected in Tennessee, Virginia and Pennsylvania. This disease complex is caused by a *Geosmithea* fungus vectored by the walnut twig beetle (WTB; *Pityophthorus juglandis*). No current technology exists to identify those trees that may be most susceptible to attack. In this project, we tested the hypothesis that genotype influences the attractivity of black walnut to WTB. We collected head-space volatiles from twigs and leaves in the canopy of 12 known clonal genotypes of black walnut growing at Martell Forest (Tippecanoe Co., IN) and tested the bioactivity of the volatile extracts in a straight-tube olfactometer. Both male and female WTB were attracted to volatiles of black walnut, although some genotypes were more attractive to the beetles than others. We will next identify the bioactive chemicals that are unique or more abundant in the extracts of the most attractive genotypes – these compounds could be used as a kairomone lure for WTB.

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