



Blackline of English walnut trees traced to graft-transmitted virus

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A. Plant pathologist John Mircetich indicates blackline, found under bark at graft union.

B. Blackline has completely girdled English/Northern California black walnut at graft union.

C. Virus from blackline-affected tree was mechanically transmitted to two cucumber cotyledons on left, causing chlorotic spots. The one on right was rubbed with tissue from healthy tree.

D. Eight-year-old walnut tree in early stage of blackline disease has poor terminal growth and small, yellowing, and drooping leaves.

E. Unions of two-year-old English/Northern California black walnut trees graft-inoculated with bark patches from English scion of healthy (left) and diseased Eureka, Ashley, and Hartley trees.

