

GROWTH RESPONSES OF WHITE OAK AND BLACK OAK TO DROUGHT STRESS ACROSS GRADIENTS  
OF ACID DEPOSITION AND MICROCLIMATE

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Based on data from Illinois, Indiana, and Ohio following the 1988 drought, acid deposition does not increase the susceptibility of oak trees to drought stress. Measurements at six sites along a gradient from comparatively high to low levels of acid deposition refuted the hypothesis that high acid deposition rates would predispose oaks to growth decline and mortality after a severe drought. Neither patterns of growth rate nor outbreak of two-lined chestnut borer correlate with acid deposition patterns. Differences in growth and mortality between sites appear to relate to differences in the timing and duration of drought conditions.

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