

EFFECTS OF ALTERNATIVE THINNING TREATMENTS ON TREE GRADES AT THREE UPLAND HARDWOOD SITES IN KENTUCKY AND OHIO: 30 YEAR RESULTS

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ABSTRACT.—Results of this study examine the effects of a wide variety of thinning treatments with respect to potential tree grade distribution of white oak (*Quercus alba* L.). Data for this analysis was collected 30 years after study establishment from two sites in Kentucky and one site in southeastern Ohio. Potential tree grade distributions were analyzed using generalized logistic regression and where appropriate, cumulative logistic regression. Thinning was found to have a statistically significant effect at the two Kentucky sites—Mckee and Baldrock—but found to have no effect at the Ohio site—Mead. Statistical contrasts of thinning treatments at the Mckee site indicated that the moderate thinning had decreased odds for poorer quality trees as compared to the odds of poorer quality trees in the severe thinning. Results for the Baldrock site were an even stronger indicator that less intensive thinning produced higher quality white oak trees. Contrasts here demonstrated that the Very Light, Moderate/Light 2nd and Moderate/Moderate 2nd treatments all had increased odds for better quality trees than did the severe treatment. No statistical differences were found among thinning treatments for potential grade at the Mead site, which had a narrower range of reduction in initial basal area among treatments.

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