PLANTING OAKS IN THE CENTRAL HARDWOOD REGION:

A SHELTERWOOD APPROACH

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Abstract: The success of oak seedlings planted under shelterwoods depends on where they are planted, initial seedling size, nursery undercutting treatments, and whether they are top-clipped before planting. These conclusions are based on planting northern red oak (*Quercus rubra* L.) and white oak (*Q. alba* L.) under shelterwoods in Indiana and Missouri. Three years after planting, the shelterwoods were completely removed. Results are based on planted tree growth and survival 5 to 7 years after shelterwood removal. For both species, planted tree survival and the probability of attaining dominance increased as initial basal diameter of seedlings increased. For a given initial seedling size, survival and dominance probabilities were lowest for seedlings that were neither undercut in the nursery nor top-clipped 8 inches above the root collar. Regardless of undercutting treatment, top-clipped seedlings always produced higher dominance probabilities than unclipped seedlings. For a given treatment, dominance probabilities were higher in Missouri than in Indiana because of the presence and rapid growth of yellow-poplar on the Indiana sites. Planting prescriptions designed to meet a specific oak stocking goal therefore should consider the expected competition after final harvest as well as the expected growth and survival of planted trees.

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