BLACK ASH SILVICULTURE PROJECTS IN NEW YORK AND MAINE

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Silvicultural activities on stands of black ash (*Fraxinus nigra* Marsh.) are limited by the quality of the site, which is usually poorly drained, and by the low commercial value of slow-growing, small-diameter trees. Silviculture recommendations for black ash focus on its role as the primary raw material in the manufacturing of hand-crafted baskets.

This paper reports the success of artificially establishing two black ash stands in northern New York using planted seedlings. Gas exchange and stomatal conductance of planted seedlings were studied to determine the impact of site quality on seedling physiology. Results of thinning projects in northern New York and Maine are also reported.

Planted seedlings should be protected with tube shelters, both to minimize deer browsing and to escape weed competition with increased early height growth. These shelters, however, decrease seedling photosynthesis rates to about one-third that of seedlings growing in full sunlight. Stomatal conductance rates are similarly decreased.

A black ash stand in the Brasher Falls State Forest in New York was thinned to three residual densities, using a randomized block design. Four years after treatment, stand density showed no effect on either crop tree diameter growth or understory seedling development.

A black ash stand near Presque Isle, ME, was cruised and marked for thinning using stocking charts developed by Erdmann and others (1987). The simulator models, NE Twigs, SILVAH, and FIBER, were used to predict future growth rates. NE Twigs and SILVAH yielded similar results, but FIBER, which is more applicable to spruce/fir forests and uneven-aged stands, predicted much higher annual increment rates. Simulation of the plots thinned to 50-, 75-, and 100-percent crown cover, as opposed to the control plot (no cutting), showed consistently increasing volume production rates and diameter growth for black ash over the 20-year simulated period.