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TECHNICAL NOTES

LAKE STATES FOREST EXPERIMENT STATION

U.S. DEPARTMENT OF AGRICULTURE . . . FOREST SERVICE

UNIVERSITY FARM ST. PAUL 1, MINNESOTA

No. 374

Labor Costs for Thinning Young Aspen

Silviculturally it is desirable to thin overdense young quaking aspen stands on good sites at an early age according to studies made by the Station in northern Minnesota over the past 23 years. Economically the desirability of such thinnings will depend upon increased values resulting from the treatment weighed against the cost of thinning carried over the period. Below are data from two noncommercial thinnings made by small crews of local men (employed at hourly wages) in 11- and 20-year-old aspen stands.

Labor Required in Two Noncommercial Aspen Thinnings

Age of stand: when thinned: (Years) :	Tools used :	Area thinned :	Stems per acre :		Size of stems removed :	Labor required per acre
			Left	Removed		
		Acres	No.	No.	Inches	Man-hours
11	Brush knives	20.0	742	2,115	1 - 2	11.2
20	Axes	5.8	1,624	588	2 - 5	16.8

Two distinctly different types of thinning are represented by these data: (1) a thinning in an 11-year-old stand which removed all except 600 to 900 of the best trees per acre and (2) a thinning in a 20-year-old stand which removed only the dominant and codominant trees that were interfering with selected crop trees. In the older stand the trees removed were large enough so that they had to be cut with axes. More time was required to thin the older stand even though far fewer stems were cut. Several types of brush knives were used in the 11-year-old stand, but, while all were superior to axes, none seemed entirely satisfactory. There is need for a special tool for thinning small aspen.

These data indicate that thinning costs at about age 10 are much lower than at 20 years. Even if costs at present wage rates are projected at 5 percent compound interest, the earlier thinning still is more economical. Furthermore, with the early thinning the stand is given 10 additional years in which to respond to management.