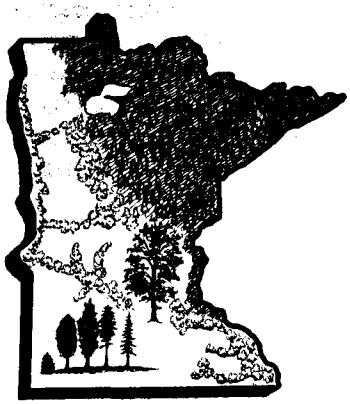

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MINNESOTA FORESTRY NOTES

No. 53

July 15, 1956

GROWTH OF C.C.C. FOREST PLANTATIONS IN SOUTHEASTERN MINNESOTA

Dale J. Pfankuch and Donald P. Duncan (1)

In the summer of 1955, Civilian Conservation Corps plantings made between 1935 and 1942 in Southeastern Minnesota were studied in an effort to determine survival and growth rates and to ascertain those site factors which had influenced the results. Ninety-six one-tenth acre plots in Washington, Goodhue, Winona and Fillmore Counties were selected for study. These counties were chosen on the basis of plantation information available and ease of obtaining this information through Soil Conservation Service personnel. Forty-eight farms were selected at random from 173 located in the four counties. Only those plantations located in the open and having a minimum size of 1/4 acre were considered. The species studied included green ash (Fraxinus pennsylvanica lanceolota), black locust (Robinia pseudoacacia), silver maple (Acer saccharinum), white spruce (Picea glauca), red pine (Pinus resinosa), jack pine (P. banksiana) and white pine (P. strobus).

Height growth data for the species studied are shown in the table.

Average annual height growth for seven species of trees planted in Southeastern Minnesota.

Species	Annual height growth in feet				Total Number of plots
	Average	Maximum	Minimum	S.D. 1/	
Black locust	1.9	3.0	1.3	.53	20
White pine	1.8				1
White pine 2/	2.5				1
Jack pine	1.7	2.2	1.4	.26	7
Silver maple	1.5				1
Red pine	1.4	1.8	0.5	.32	20
Red pine 2/	1.9	2.3	0.9	.37	20
Green ash	1.4	2.7	0.4	.53	48
White spruce	0.9	1.3	0.3	.45	4

1/ Standard deviation 2/ For the period 1949 through 1955 only.

More intensive study was given three species, green ash, black locust, and red pine, which occurred in greatest abundance in an effort to find those factors of site most closely correlated with growth. The two hardwoods were most successful on finer textured soils on the basis of average annual growth, whereas the pine grew better on coarser textured soils (see Fig.).

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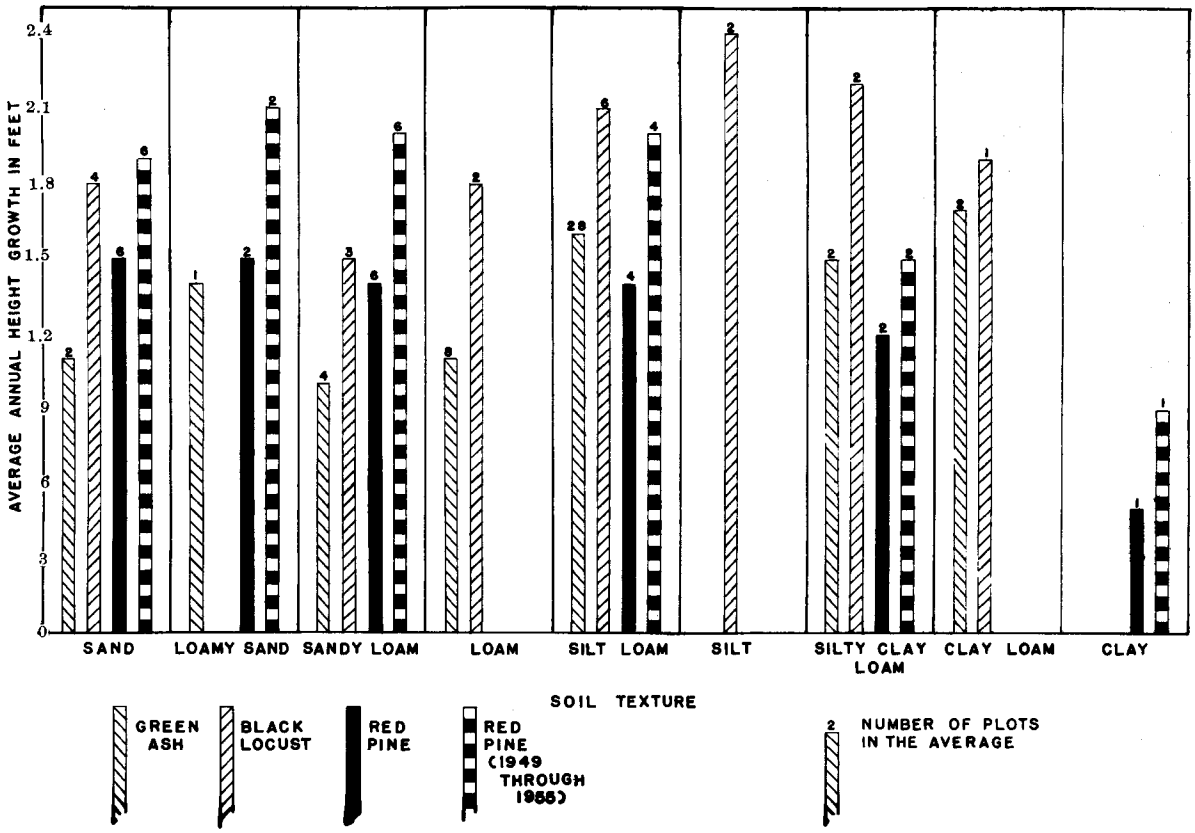
Published by the School of Forestry, University of Minnesota, St. Paul 1, Minnesota, cooperating with the Division of Forestry, Minnesota Conservation Department, and Forest Industries of Minnesota

There is evidence that soil depth, aspect, slope and depth of organic matter penetration into the soil as defined by soil color, also are related to tree growth. Since the field data are not sufficiently consistent to indicate relationships clearly, further study is required before definite conclusions can be stated. A thorough study of red pine plantations is planned to establish more clearly the relationships of this species to site factors the results of which will be reported in a forthcoming Minnesota Forestry Note.



The relation of average height growth to soil texture classes for three species commonly planted by the Civilian Conservation Corps in Southeastern Minnesota.

Published as Sci. Jour. Ser. Paper No. 3577 of the Minn. Agr. Exp. Sta.