

"Super Spruce" Plantation of the
Consolidated Water Power and Paper Company

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These plantations contain trees which were chosen in the Consolidated Water Power and Paper Company nursery for their exceptionally good height growth. With the thought that this expression of energy would also be apparent in field plantings, about 3200 of these tall trees have been planted in this area.

The first planting was made in 1950, when about 1600 super spruce were set out. In one plantation 960 of these trees were interplanted in rows with control trees which represented the average run of stock from the Consolidated nursery for that year. These trees have been examined every year for 12 growing seasons.

Analysis of measurements made on super and control trees reveals that a high proportion of the white spruce transplants that exhibit exceptionally good height growth in the nursery can be expected to produce superior height growth in the field for at least 12 years after planting. Forty percent of the super trees, and only ten percent of the regular trees are currently showing very good height growth. At the end of 10 years, 11 percent of the super trees had a net height increase of at least twice the amount expected for regular nursery stock. None of the control stock met this standard (table 1).

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Table 1.--Mean height of super spruce and regular spruce
in 1950 plantation

Number of growing seasons after planting	Mean height		Difference
	Super spruce	Regular spruce	
	Feet	Feet	Feet
0	1.1	0.5	0.6
2	1.4	0.8	0.6
4	2.3	1.5	0.8
6	3.6	2.4	1.2
8	4.9	3.4	1.5
10	6.5	4.5	2.0
12	8.7	6.2	2.5

In 1956 another set of super spruce was planted to check the growth history of the 1950 planting and to give us information on other characteristics which may be inherited. The best 700 white spruce trees (out of about 440,000) were chosen and were interplanted with control trees. None of these 2-2 "super" trees were shorter than 17 inches at the time they were lifted from the nursery, whereas mean height for the regular stock was 7.6 inches. Heavy clipping by snowshoe hares has kept the growth rate of these trees slightly below that of the 1950 trees, but the growth pattern is very close to that shown in the 1950 planting.