



VIRGINIA DIVISION OF FORESTRY

DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT



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A LOBLOLLY PINE "SUPER-SEEDLING" STUDY

The Study

During the dormant season of 1956-57 one year old loblolly pine seedlings of outstanding height or "super-seedlings", were selected from Virginia Division of Forestry nursery seedbeds. Each super-seedling selected was compared with the average height of the 25 closest seedlings. From these 25 seedlings, a seedling of average height was selected as a check.

A total of 115 super-seedlings with their checks were chosen for out-planting. The selection ratio was one super-seedling for every 260,000 seedlings.

In early March 1957, each super-seedling was planted in pair with its check seedling at the Hanover School for Boys with super-seedlings alternating with check seedlings within rows. The planting spacing used was 8 by 8 feet.

At time of planting, the average height of the super-seedlings was 1.3 feet and the check seedlings 0.6 feet. The planting site was an abandoned field covered with broom straw. The soil type was Wickham loamy sand.

Results

After 11 growing seasons 85 pairs of trees were still living and total heights and diameters were measured. In addition, straightness and crown size were subjectively evaluated and the presence of *Cronartium fusiforme* noted. Both check and super-seedlings suffered severe tip moth attack. A summary follows:

	<u>Avg. DBH (inches)</u>	<u>Avg. Total Ht. (feet)</u>	<u>Average Straightness</u> ^{1/}	<u>Avg. Crown Size</u> ^{1/}	<u>No. Trees w/ Cronartium</u> ^{2/}
Super	5.5	25.3	2	2	6-B, 5-L
Check	5.5	25.3	2	2	1-B, 7-L

Conclusions

In this study seedbed selections for vigor alone did not result in any height, diameter, straightness or crown size improvement. The seeds used in the study were not graded according to size so the effect of seed size may have accounted for some of the difference in the one-year old seedling height when comparing super-seedlings with checks.

R. W. Slocum
R. G. Wasser
R. L. Marler

^{1/} Rated subjectively as 1=poor, 2=fair, and 3=good.

^{2/} "B" indicates canker found on bole and "L" on limb.