

GENETIC TREE IMPROVEMENT PROGRAM

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In 1959, the Virginia Division of Forestry recognized the need for genetically superior seedlings to be used for reforestation work in Virginia and surrounding areas. This need was necessitated by the increasing demand for planting stock by private landowners, companies, and other individuals, as merchantable timber is cut faster than it is grown. To satisfy this demand, it became apparent that more wood had to be grown on less land and in less time.

The following is a brief outline of our tree improvement program as administered by the Virginia Division of Forestry.

A. SPECIES - PHYSIOGRAPHIC PROVINCES - SUPERIOR PARENT TREES - ORCHARD ACREAGES BY LOCATION

<u>Species</u>	<u>No. Superior Trees</u>	<u>New Kent Orchard</u>	<u>Buckingham Orchard</u>	<u>Augusta Orchard</u>	<u>Total</u>
Loblolly Pine - Piedmont	26	57.6	114.8		172.4
" " Coastal Plain	35	179.0	1.3		180.3
Virginia Pine - Piedmont	26		12.1	2.3	14.4
Shortleaf Pine-Piedmont	22	7.8	0.8		8.6
White Pine - Mountain	23		29.0	8.5	37.5
Breeding Orchards	<u>Open</u>	<u>0.6</u>	<u>0.8</u>		<u>1.4</u>
TOTAL	132+	245.0	158.8	10.8	414.6

- B. Intensive orchard management includes routine fertilization, mowing, prunings, subsoilings, insect and disease control, etc.
- C. The progeny testing of the orchard stock is well under way with more than 130 acres of test plots established since 1970. Progeny tests of the first generation orchards should be completely established within 5 years.
- D. Cone production is just beginning with the largest collection of 1,000 bushels collected by hand using bucket trucks and platform trucks in 1976. Annual production of 5,000 - 10,000 bushels is expected when orchards come into full production within the next 5 - 10 years.
- E. Cone or seed collection poses major problems. Large bucket trucks and platform ladder trucks are used. As the orchards get older, other collection methods must be used. Large riding seed vacuum harvesters are available but are quite expensive. Seed collection cloth as demonstrated here is also a possibility. To date, we have not had to make this decision since our orchards have not yet reached full production.

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