



VIRGINIA DIVISION OF FORESTRY

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HEIGHT COMPARISONS OF DIRECT SEEDED AND PLANTED LOBLOLLY PINE SEEDLINGS

Introduction

Beginning in 1961 a four year loblolly pine direct seeding study was established on the Buckingham-Appomattox State Forest. Different dates and rates of sowing are being tested. A total of 24 one-acre plots were direct seeded each year. The plots were thoroughly prepared for sowing by bulldozing and discing.

Loblolly pine seedlings (1-0) were planted on areas adjacent to the 1961 and 1963 direct seeding plots. The areas planted were prepared in the same manner as the seeding plots. The planting was done during the same season as the seeding so that the growth of planted and direct seeded seedlings could be compared.

During October, 1965, seedling heights were measured.

Method

For each year (1961 and 1963) 180 seedlings were randomly selected and measured, 90 of the planted and 90 of the direct seeded. Seedlings were chosen for measurement along plot boundary lines in order to minimize site differences. Planted seedlings were measured on one side of the line and direct seeded seedlings on the other. Seedlings were selected for measurement completely around the perimeter of the direct seeding plots (wherever outside plot boundaries were bordered by planted seedlings).

Random mil-acre plots (square plots 6.6 feet on a side) were used to select seedlings to be measured. The tallest seedling on each mil-acre plot was measured to the nearest 0.1 foot. The sampling scheme was, therefore, designed to determine the average height of dominant seedlings.

Results

The results are summarized in the table below. The seedlings on the 1961 plots have had five growing seasons and the seedlings on the 1963 plots have had three growing seasons as of October, 1965.

<u>Year</u>	<u>Height in Feet</u>		<u>Height Difference</u>	<u>95% Confidence Interval on Height Difference</u>
	<u>Planted</u>	<u>Direct Seeded</u>		
1961	11.8	9.6	2.2'	+0.7'
1963	4.7	2.2	2.5'	+0.4'

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