



VIRGINIA DIVISION OF FORESTRY

DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT



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RESULTS OF 1962 BROADCAST SEEDINGS ON PRIVATE LANDS IN VIRGINIA

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This report presents the results of 34 direct seeding plots installed during the late winter and spring of 1962 on private landholdings throughout Virginia. Loblolly pine, Virginia pine, and white pine were involved. All plots were broadcast sown using a cyclone seeder. All seed was treated with endrin and Arasan, using aluminum flakes and a sticker. The early sowings were with non-stratified seed and the later sowings with stratified seed. Site preparation was by bull-dozing or discing, and on some plots logging disturbance alone was relied on for site preparation.

The plots were sampled to determine results during the fall and winter of 1962-63, after the first growing season. On each tract a minimum of 100 mil-acres (1/1000 acre, i.e. a square plot 6.6 feet on a side), well scattered over the tract, were examined to determine the stocking percent and total number of seedlings per acre. Stocking percent is simply the percentage of the mil-acre plots examined which contained at least one seedling. For example, for a tract on which 60 of the 100 mil-acre plots examined contained at least one seedling the stocking percent would be 60 percent. This would be the equivalent of 600 well-spaced seedlings. The total number of seedlings per acre is based on the average number of seedlings on the mil-acre plots examined, expanded to a per acre basis.

Sites Prepared by Either Bulldozing or Discing

The following plots were established on areas prepared for seeding by either bulldozing or discing. Soil disturbance ranged from 60 to 100 percent. The results are as follows:

<u>Tract</u>	<u>County</u>	<u>Site Preparation</u> (LOBLOLLY - COASTAL PLAIN)	<u>Date Seeded</u>	<u>Seeding Rate</u> <u>lb./Ac.</u>	<u>Stocking Percent</u> (Per Acre)	<u>Total No. of Seedlings</u>
Hinton	Northumberland	bulldozed	Feb. 15	1.5*	87±12	5,740±3,800
Hinton	Northumberland	bulldozed	Feb. 15	0.8*	85±10	3,930±1,140
Hinton	Lancaster	bulldozed	Feb. 15	0.8*	71±14	2,440± 940
Northumberland	Northumberland	bulldozed	Mar. 30	0.7	25±11	330± 220
	Vo-Ag					
Carter	Richmond	bulldozed	Apr. 9	0.7	29±10	380± 150
Broadus	Caroline	bulldozed	May 7	1.0	29±19	510± 480
(LOBLOLLY - PIEDMONT)						
Holland	Fluvanna	disced	Jan. 12	1.0*	58±15	2,310±1,120
Purcell	Louisa	bulldozed	Jan. 12	1.0*	96± 5	3,810±1,260
Eastwood & Green	Albemarle	disced	Jan. 26	1.0*	67±12	1,570± 480
Webster	Buckingham	disced	Feb. 16	1.0*	61±19	1,370± 520
King	Nottoway	bulldozed	Mar. 19	1.0	56±14	1,590± 850
Terrel	Lunenburg	bulldozed	Mar. 20	1.0	65±19	2,060± 760
Pettus	Charlotte	bulldozed	Apr. 9	1.0	63±15	1,650± 580
Mastin	Spotsylvania	bulldozed	Apr. 18	1.0	70±14	2,270±1,060
Orange Co.	Orange	disced	Apr. 19	0.8	68±13	2,340± 920
Whitehead	Pittsylvania	disced	Apr. 20	1.0	51±22	1,930±1,140
Lacy	Albemarle	disced	Apr. 26	1.0	87±11	3,330± 970

*Non-stratified seed. All other seed was stratified.

Tract	County	Site	Date	Seeding Rate	Stocking	Total No.
		Preparation	Seeded	lb./Ac.	Percent	of Seedlings
(VIRGINIA PINE - PIEDMONT)						
					(Per Acre)	
Webster	Buckingham	disced	Feb. 16	1.0*	85±14	3,830±2,270
King	Nottoway	bulldozed	Mar. 19	1.0	86±10	5,510±2,190
State Forest	Buckingham	bulldozed	Mar. 23	1.0	90±7	4,450± 921
State Forest	Buckingham	bulldozed	Mar. 28	1.0	92±6	3,750± 745
State Forest	Buckingham	bulldozed	Mar. 28	1.0	92±6	4,930±1,702
Purcell	Louisa	bulldozed	Apr. 6	1.0	100±0	14,120±5,630
Walton	Louisa	bulldozed	Apr. 6	0.8	84±9	3,330±2,160

(WHITE PINE - PIEDMONT AND MOUNTAINS)

Eastwood & Green	Albemarle	disced	Apr. 26	1.0	77±16	3,260±1,920
Fox	Nelson	bulldozed	Apr. 27	1.0	31±12	600± 280
Geisler	Lee	bulldozed	Apr. 27	1.0	95±5	9,040±5,090

*Non-stratified seed. All other seed was stratified.

In the table presented above the figures for Stocking Percent and Total No. of seedlings are followed by error terms expressed at 95 percent confidence limits. For example, on the Hinton Tract for which the sowing rate was 1.5 pounds of seed per acre the stocking percent obtained was 87±12. This means the chances are 95 out of 100 (or 19 out of 20) that the true stocking on this particular tract is between 75 percent and 99 percent (i.e. 87% ± 12%). Of more practical interest might be the fact that the chances are only one in forty that the true stocking is less than 75 percent (i.e. 87% - 12% or 75%).

Logging Disturbance Only

Much of the terrain in the mountains is too steep to permit site preparation by bulldozing or discing. Plots were installed on recently logged areas where soil exposure ranged from 25 to 60 percent. All seed was stratified. The results are as follows:

Tract	County	Date	Seeding Rate	Stocking	Total No.
		Seeded	lb./Ac.	Percent	of Seedlings
(WHITE PINE)					
					(Per Acre)
Plummer	Grayson	Apr. 18	1.7	56±26	2,560±2,260
Frazier	Lee	Apr. 19	1.0	19±11	260± 140
Smith & Kemp	Floyd	Apr. 27	1.0	43±17	750± 380
Tredegar	Botetourt	May 10	1.3	51±21	1,640± 840
(LOBLOLLY PINE)					
Stonega	Wise	Apr. 20	1.0	50±18	1,600±1,100
Palmer	Scott	May 10	2.0	20±17	350± 310
(VIRGINIA PINE)					
Palmer	Scott	May 9	1.0	40±14	1,810± 890