ST. JOE NATIONAL FOREST SPRING-FALL PLANTING STUDY

1970

Progress Report

Ray Boyd and Sam Sinclair

INTRODUCTION

Preliminary results from the St. Joe National Forest Spring-Fall planting study appear to show some important species/storage/planting date relationships that merit immediate consideration. The enclosed graphs depict the first year survival data on this study which has been repeated for three successive years. Data from this study is being analyzed and a final report will be completed soon, but probably not in time to help guide the 1970 spring and fall planting program. It is hoped that this progress report will provide useful information in the meantime.

DESIGN

Douglas-fir, spruce, grand fir, and larch were planted on three spring and three fall dates, spaced about two weeks apart, starting in the fall of 1966. Two replications of 35 trees were planted on each of two "sites" representing a moist (rear bar in graphs) and a dry (front bar) condition. Survival counts were made in the fall of the first growing season for each set of plantings (counts in 1967, 1968, and 1969).

Fall planting was done "hot", i.e., seedlings were lifted from nursery beds and planted within a day or so. Spring planting, at least for 1967 and 1968, was with stock lifted early and cold-stored until planting time. The 1969 spring planting was done "hot" with stock in various stages of spring growth.

Following are some obvious conclusions which the data seem to support:

1. Survival of spring planted stock is, on the average, better than that of fall planted stock. Even with the poor results from planting non-dormant stock in the spring of 1969 averaged into the previous two years, the average survival of spring planted trees (66%) exceeds the average for fall planted trees (50%).

2. Some fall planting was, in terms of survival, as good as --or even better than--spring planting. Survival of mid-September planted spruce was consistently as good as spring planting and larch planted in mid-October generally

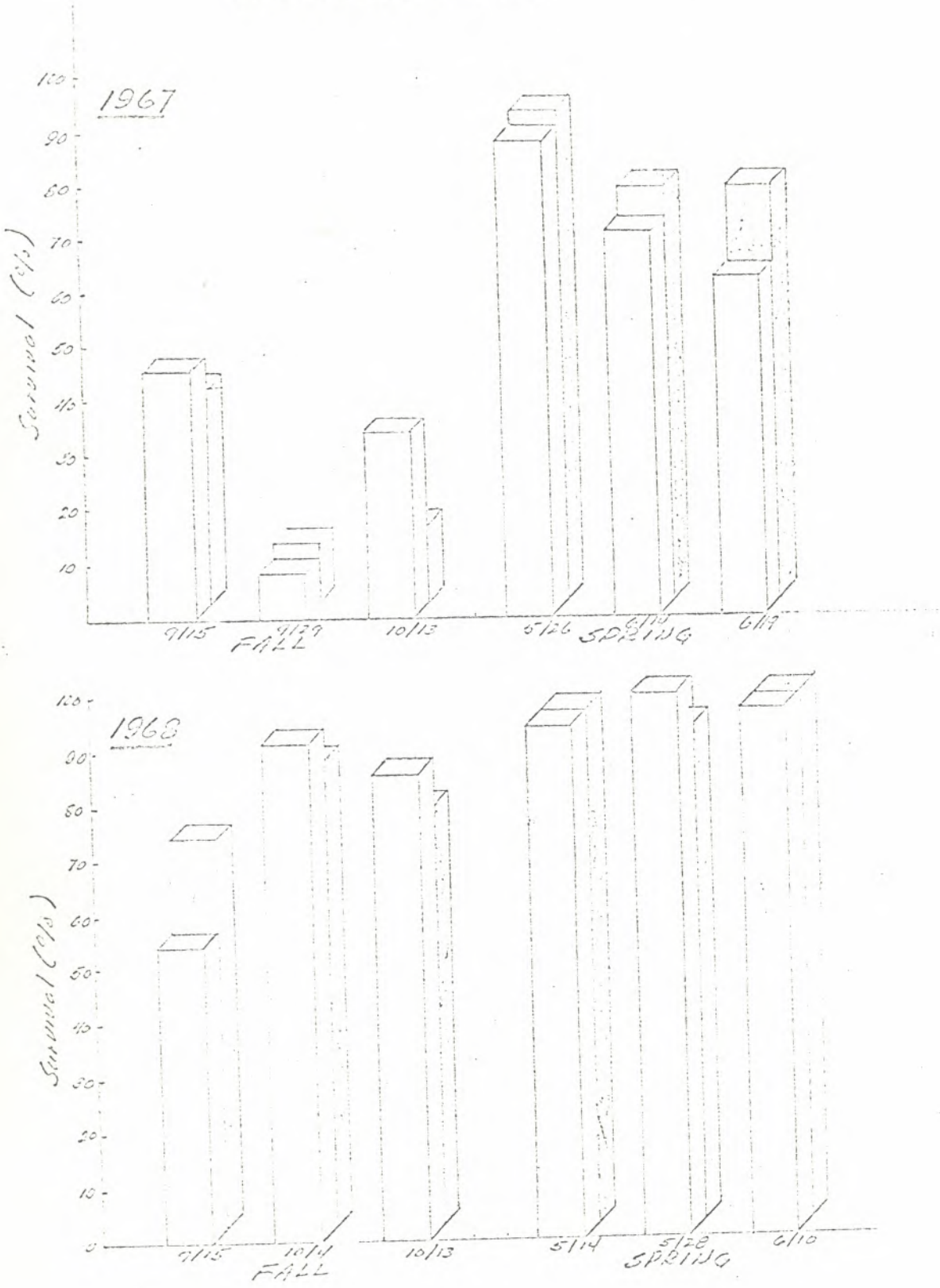
survived better than when spring planted. Although certain species survive fall planting well if conditions (weather, seedling physiology, etc.) are right, research is needed to define these conditions and develop procedures for stock treatment which will provide consistently good results,

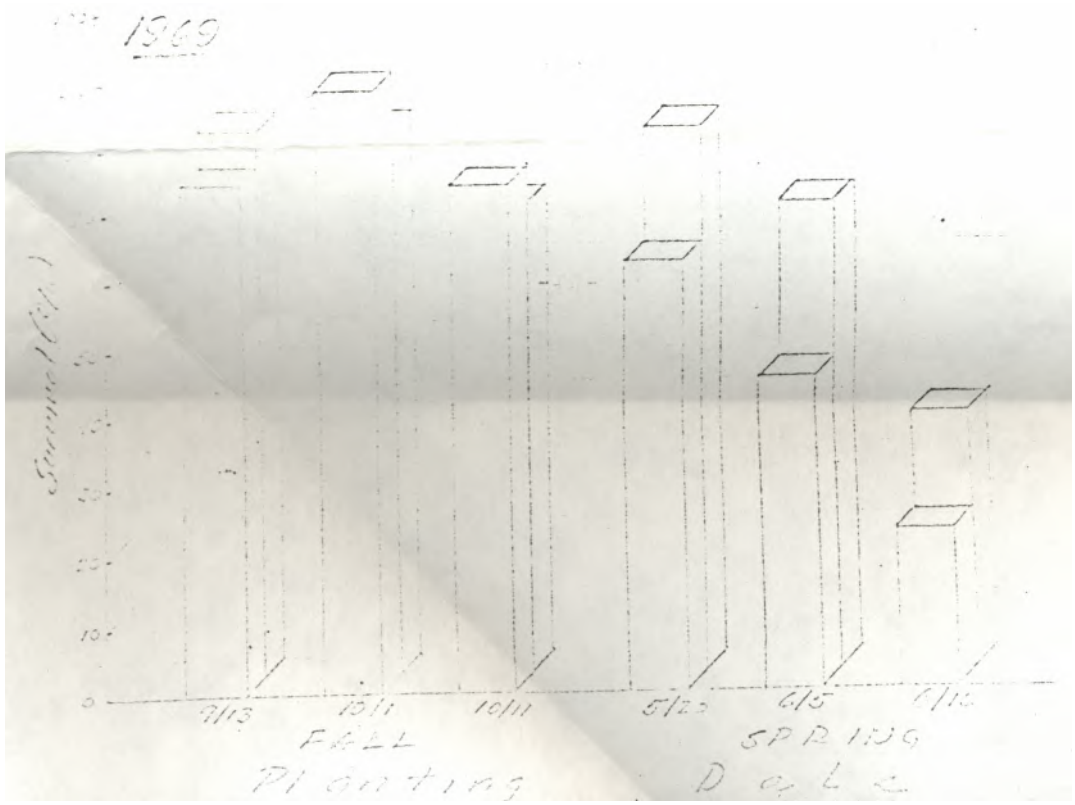
3. Survival of fall planted spruce declined sharply as planting was delayed beyond September 15.

4. Fall planted larch survival was very poor when lifted and planted prior to mid-October.

5. With stored, spring-lifted stock (1967 and 1968), survival remained reasonably high for all spring planting dates (except for larch). However, when stock was lifted and planted in a "non-dormant" condition (1969), survival tended to decline sharply as the season progressed. Although this was not ,a part of the study design, and therefore not subject to statistical verification, these results are in keeping with the general performance of non-dormant stock here and elsewhere.

DOUGLAS-FIR


1967
Survival (%)
100
90
80
70
60
50
40
30
20
10
9/15
9/29
10/13
5/26
6/10
6/19
FALL
SPRING
1968
Survival (%)
100
90
80
70
60
50
40
30
20
10
0
9/15
10/14
10/13
5/14
5/28
6/10
FALL
SPRING


1969
Survival (%)
0
10
20
30
40
9/13
10/11
10/11
5/25
6/5
7/15
FALL
Planting
SPRING
Dole

March 1, 1971

A Memorandum to Recipients of Copies of the Proceedings of the 1970 Joint Meeting of the Western Forest Nursery Council and the Intermountain Forest Nurseryman's Association

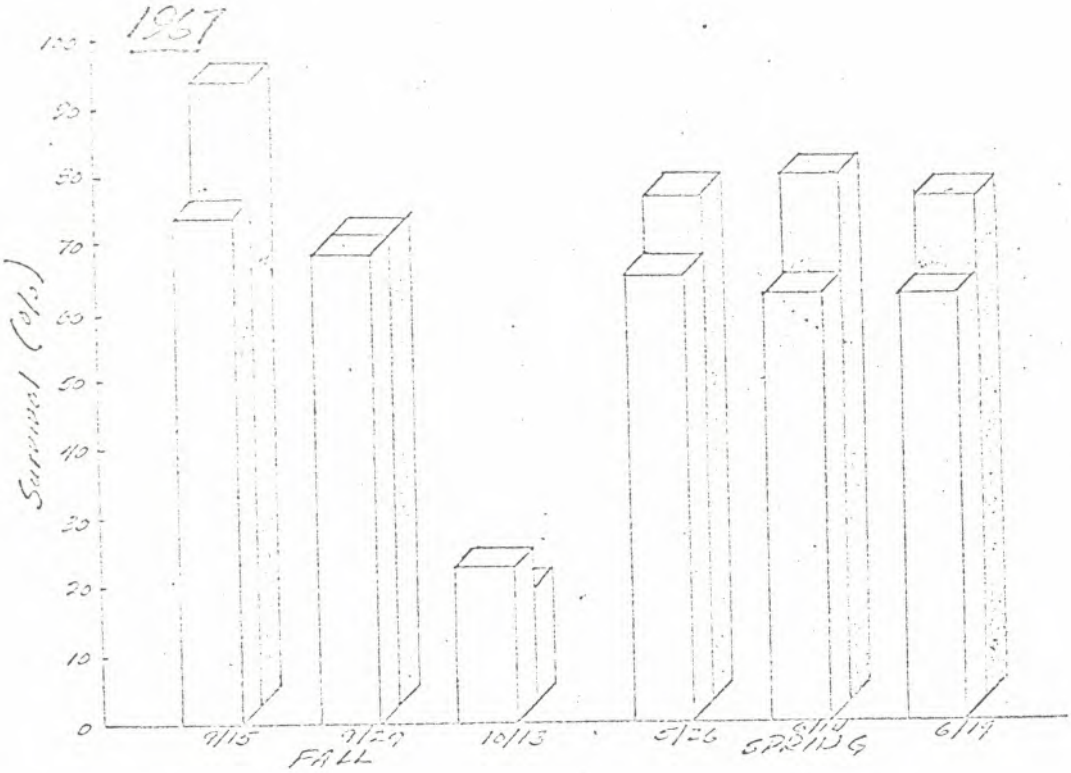
With regard to the proceedings as printed:

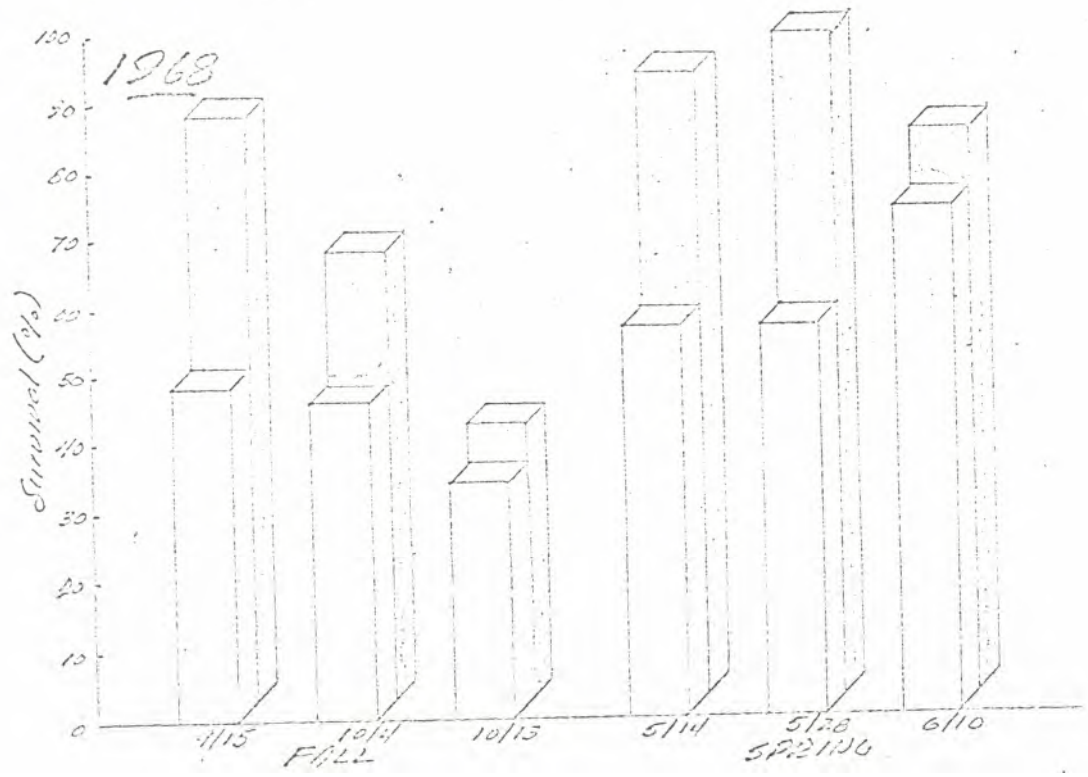
Correction of an Error: It has been brought to our attention that Mr. Peyton W. Owston was erroneously credited with the authorship of the paper entitled "Effect of Storage on Vigor of Douglas-fir Stock" page 57 of the proceedings when, in fact, Dr. Denis P. Lavender of the Forest Research Laboratory, Oregon State University, was the author. Mr. Owston was kind enough to present the paper at our meeting on the Doctor's behalf.

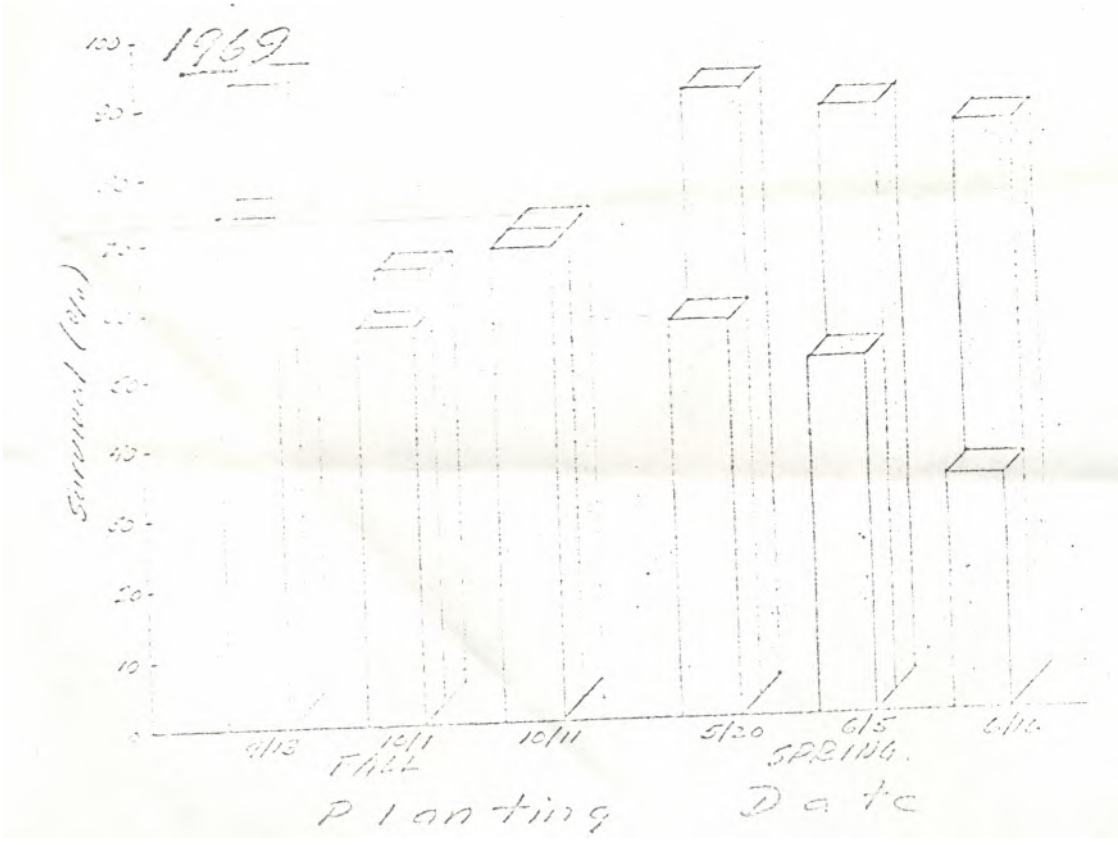
The Chairmen extend their apologies to those gentlemen involved in this oversight.

STEPHEN E. McDONALD
Chairman

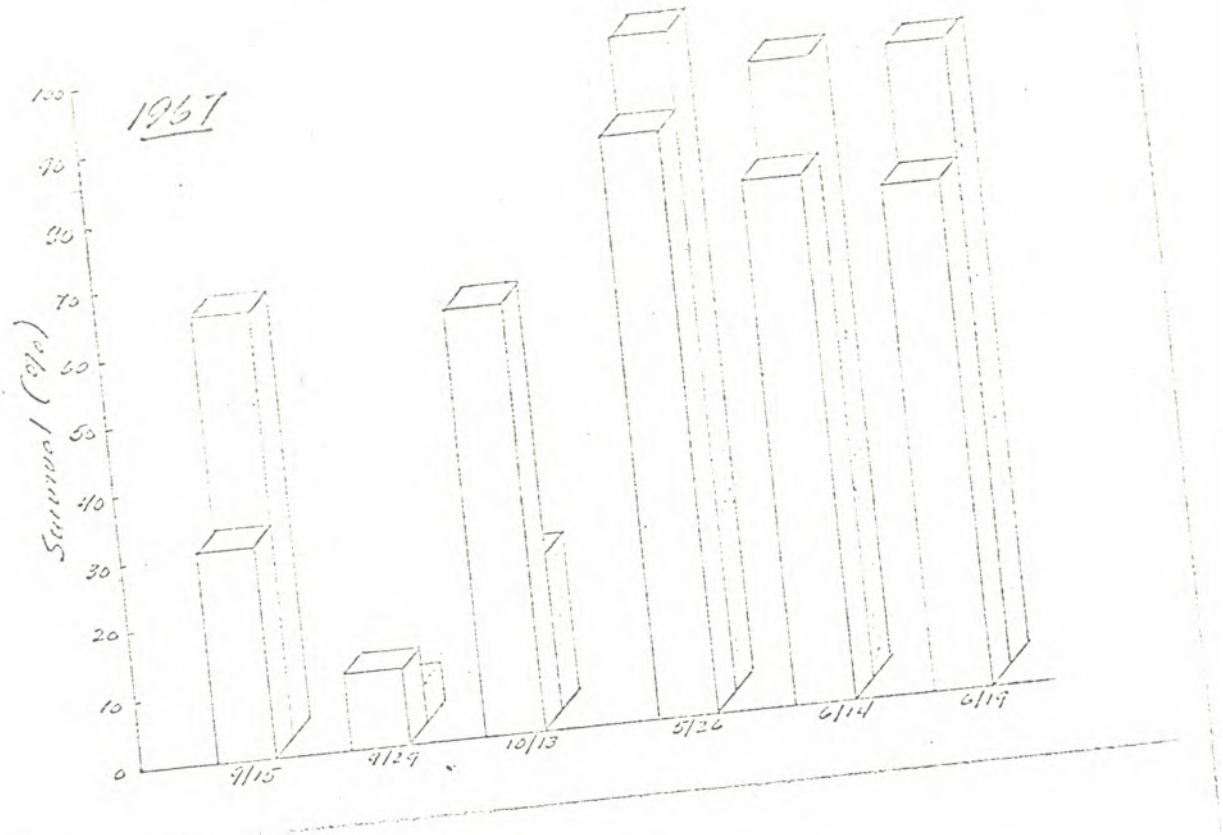
ENGELMANN SPRUCE

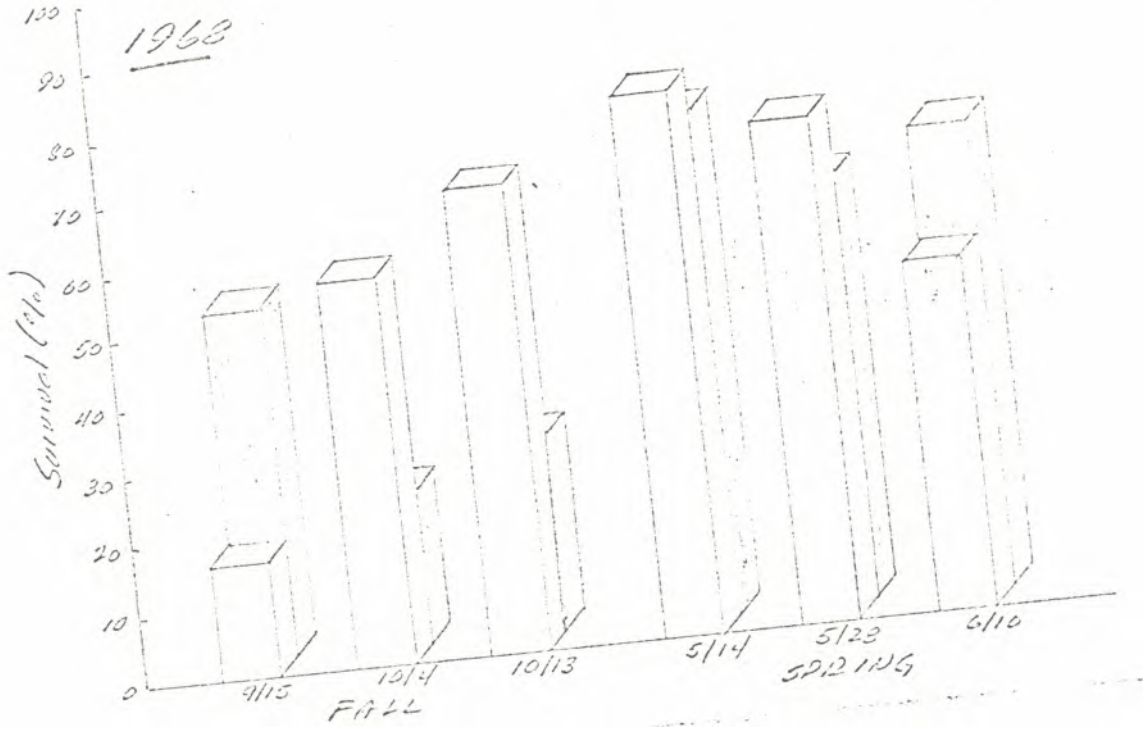


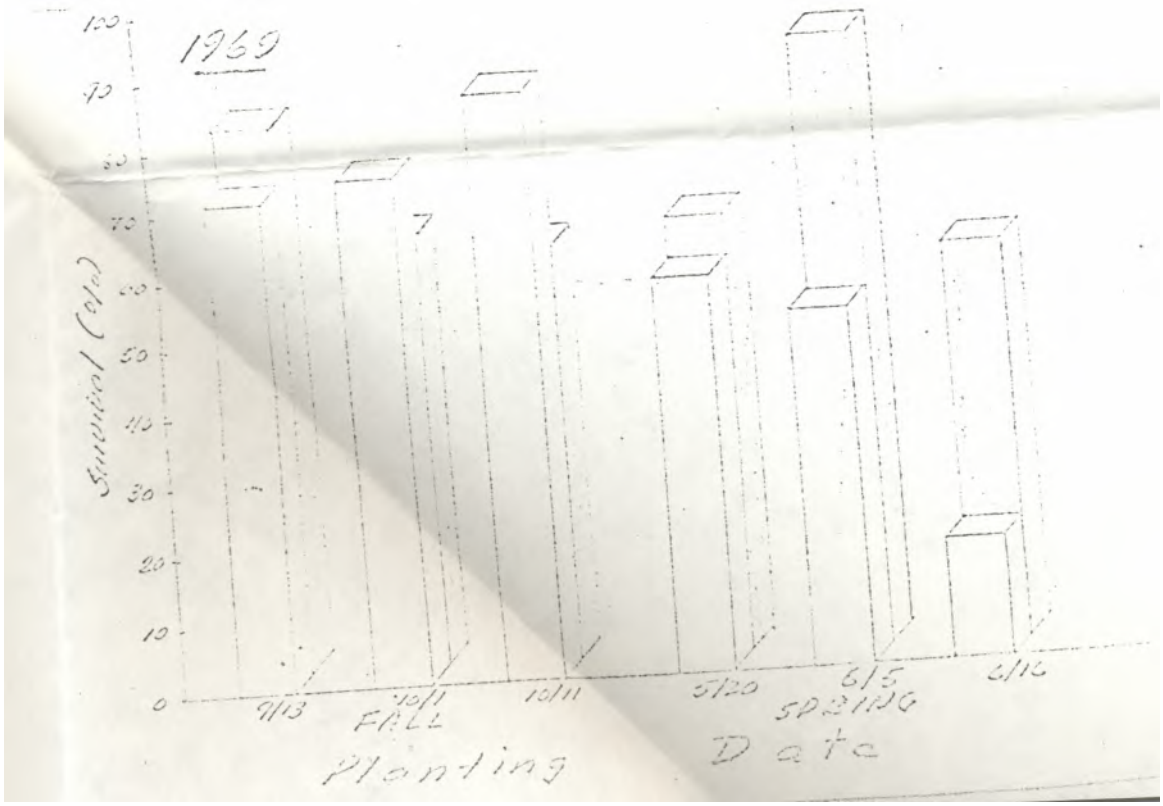



1969
Survival (%)
100
90
80
70
60
50
40
30
20
10
0
9/13
10/11
FALL
10/11
5/20
6/5
SPRING.
6/16
Planting Date

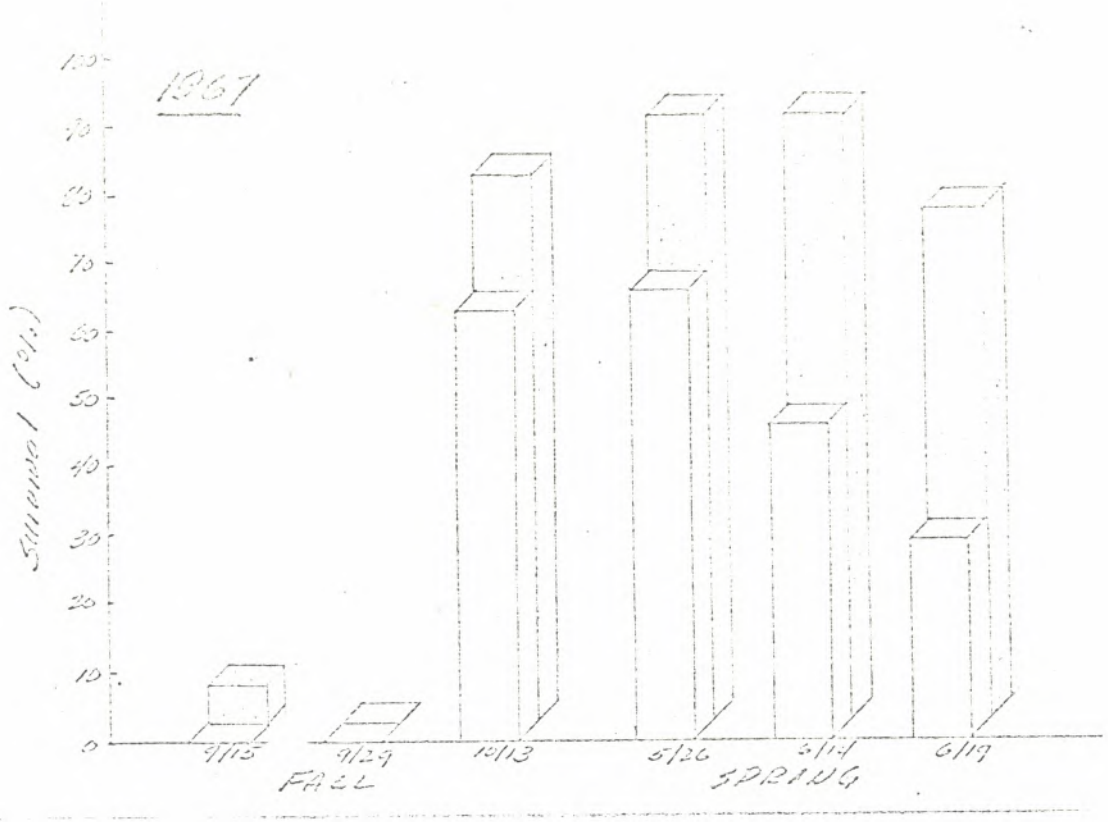
GRAND FIR

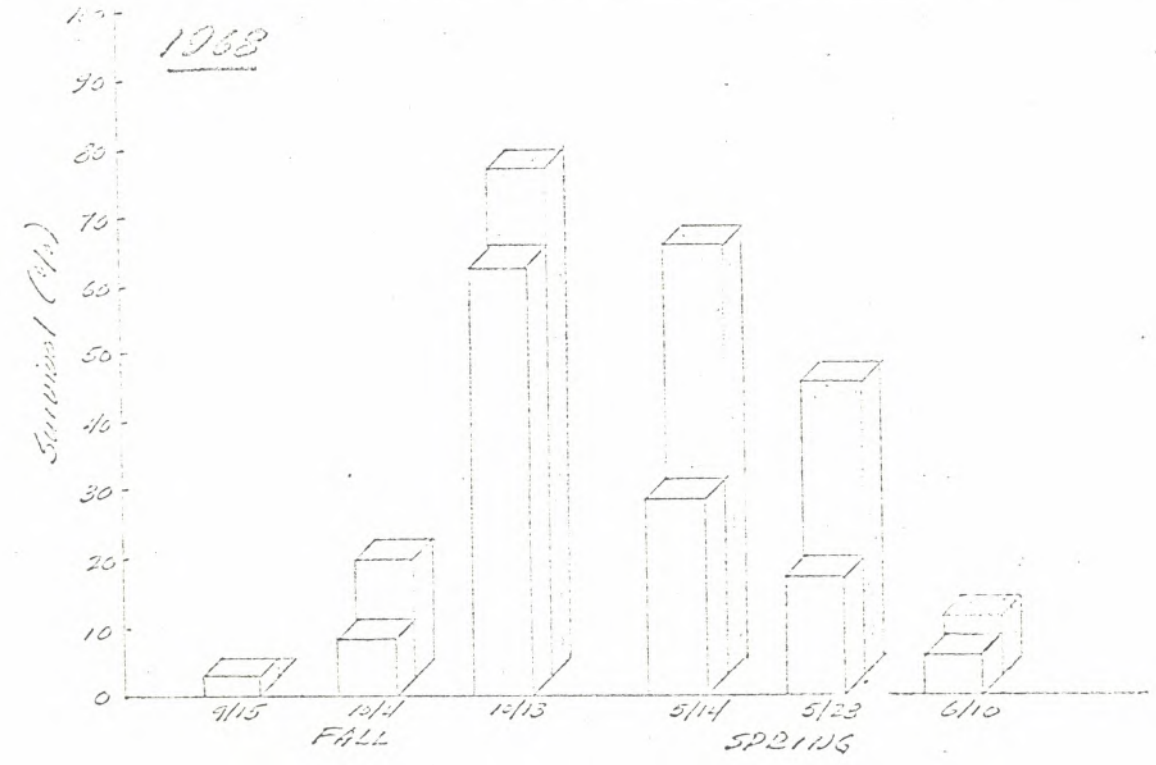

1967
Survival (%)
100
90
80
70
60
50
40
30
20
10
0
9/15
9/29
10/13
5/26
6/14
6/19

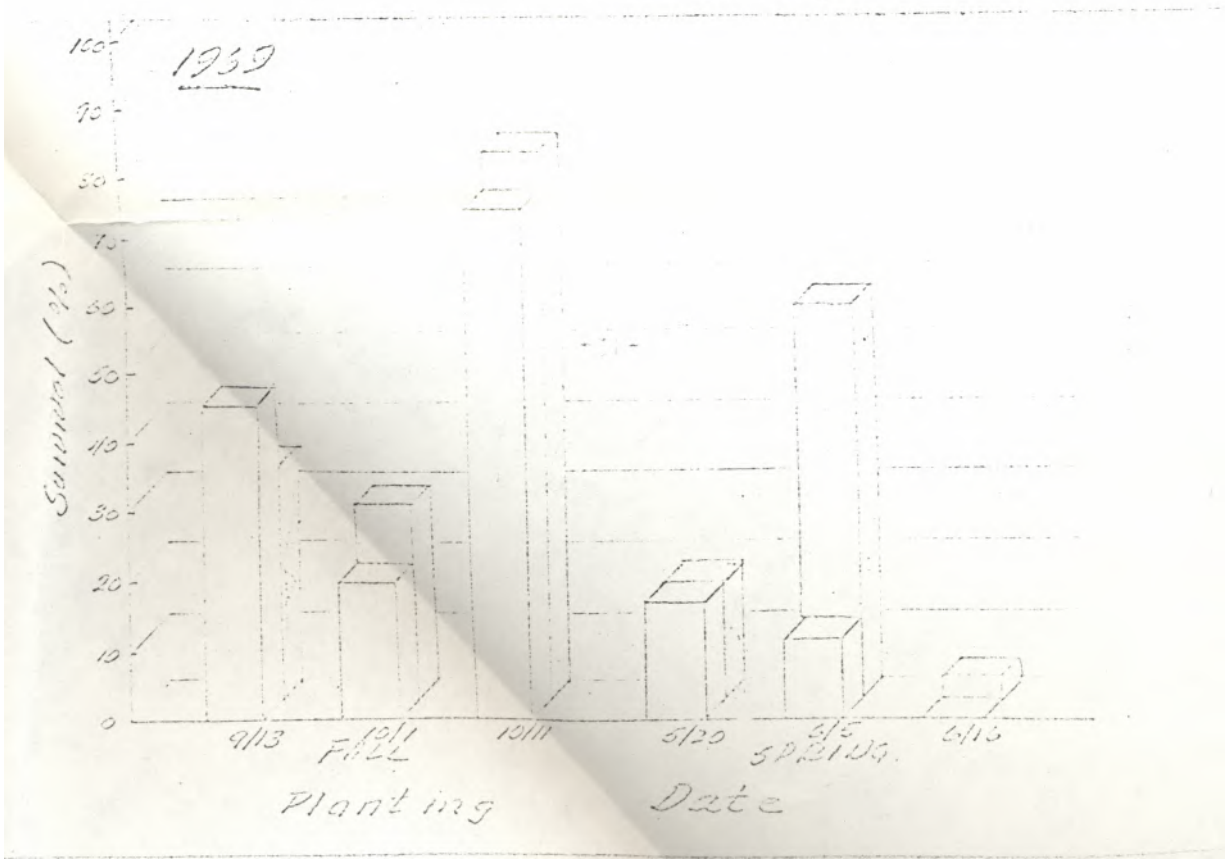

1968
Survival (%)
100
90
80
70
60
50
40
30
20
10
0
9/15
10/4
10/13
5/14
5/23
6/10
FALL
SPRING


1969
100
90
80
70
60
50
40
30
20
10
0
Survival (%)
9/13
10/1
FALL
10/11
5/20
6/5
SPRING
6/16
Planting
Date

WESTERN LARCH






1959
100
90
80
70
60
50
40
30
20
10
0
Survival (%)
9/13
FALL
10/11
5/20
SPRING
6/15
Planting Date