Comparison Between

Orchard Class A Seedlings
vers
Class B Seedlings

Fort Saint James

Prince George Region

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92-05-13
TITLE: Evaluation and Comparison of Orchard class A seed seedlings and Wild Stand class B seed seedlings.

INTRODUCTION: This trial will examine the validity of using Orchard seed versus Wild Stand seed and to compare the resultant survival and growth of outplanted seedlings.

OBJECTIVES: 1. To compare:
   a) Orchard class A seedlings
   b) Wild Stand class B seedlings

Comparisons will consist of measuring the seedlings' height growth, survival and root development.

STOCK: SEED (Central Plateau High, Orchard #206) 950m.
SW 2+0 313B PSB Class A Seedlot #6307 Surrey Nursery. Request Key (90G5010)

SEED (Kloch Lake) 914m.
SW 2+0 313B PSB Class B (Wild Stand) Seedlot #8541 Surrey Nursery. Request Key (90G5001)

All stock was operationally grown and stored in special handling or treatments applied prior to outplanting.

TREATMENTS: All treatments will be applied at the time of planting, as follows:

<table>
<thead>
<tr>
<th>TREATMENT NO.</th>
<th>TREATMENT</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>2+0 PSB 313B Orchard class A seedlings</td>
</tr>
<tr>
<td>2.</td>
<td>2+0 PSB 313B Wild Stand class B seedlings</td>
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</tbody>
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LOCATION: Fort Saint James (Ocock River)

TRIAL DESIGN: One replication for 2 treatments will be established. For each treatment 100 seedlings (4 replications of 25 seedlings) are required. A total of 200 seedlings will be planted and marked at the one location.

Of the 25 seedlings in each row:

- 25 - measured for height (#1-25)
- 25 - measured for survival (#1-25)

Trees will be spaced 2.0 m apart in rows with rows spaced 3.0 m apart.

METHOD: Seedlings will be planted using a planting shovel.

At each remeasurement, the survival and condition of each seedling will be recorded. Condition codes are:

- (0) = Dead
- (1) = Good - dark green needles, average growth, no damage/disease
- (2) = Chlorotic and less than average damage
- (3) = Poor - may have dead leaders or branch tips, less than average growth or growth stressed
- (4) = Missing
- (5) = Multiple Top
- (6) = Frosted
- (7) = Animal Damage
- (8) = Animal Kill
- (9) = Other

Photography will illustrate the site conditions, examples of each condition, seedling performance in each treatment and other pertinent findings.

Photographs will be taken throughout the scheduled measurements. These will be of tree #1 in the first row of each treatment.
SCHEDULE:

<table>
<thead>
<tr>
<th>MEASUREMENT</th>
<th>S/92</th>
<th>F/92</th>
<th>F/93</th>
<th>F/96</th>
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</thead>
<tbody>
<tr>
<td>Height</td>
<td>X</td>
<td>X</td>
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<td>Survival</td>
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<td>Establish Report</td>
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<td>Interim Report</td>
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<td>Final Report</td>
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REPORTS: Establish Report (Fall 1992) - this report will include original stock measurements and summary; maps (1:100,000) showing location of test sites, (1:15,000) showing location of trial plots within treatment blocks and sketches showing the row order for stock treatment types, and representative photography. Trial locations will be documented on mylars and History Records. Map clearance will be requested.

DISTRIBUTION: Research Officer - All regions
Silviculture Officers - All regions
Resource Officer Silviculture - Prince George District
Silviculture Branch Agrologist
Manager, Nursery and Seed Extension Services
MoF Library
TRIAL DESIGN:

At location #1 2 treatments will be replicated 4 times. Each replication consisted of 25 trees per row spaced 2 meters apart. Of the 25 seedlings in each row:

Trees (#1-25) measured for survival and condition.
Trees (#1-25) measured for height.
Random trees will be use for root examination and destructive sampling.

There were a total of 100 trees of each treatment planted at each location.

Location #1 has 8 rows, each row is spaced 3 meters apart. A total of 200 trees will be planted.

PLOT MAP SHOWING LOCATION OF TREATMENTS

<table>
<thead>
<tr>
<th>ROW#</th>
<th>TREATMENT</th>
<th>SURVIVAL</th>
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<td>8</td>
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>-------------------TREES-1-25------------------>

Used for height measurement