Report prepared by:  
S. WILLIS & C. CLARKE (Typed)

Report & Distribution approved by:  
R. BROWN (Typed)

(a) Wide Distribution
(b) Limited
   (i) Internal - Branch only
   (ii) External - Designated
   (iii) Ministry only

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Approved:
Manager -  
R. C. Jones (Typed)
1. Location

Rampart Lake, 32 Km north of Princeton, F.D.6 (Merritt), Kamloops Region; see maps, Appendix 1 and 2.

2. Objective

To compare the survival and growth of Lodgepole Pine plugs when planted on Bracke prepared spots with that on unprepared spots.

3. Trial Stock

<table>
<thead>
<tr>
<th>Seedlot No.</th>
<th>Stock Type</th>
<th>Top Ht, cm</th>
<th>R.C.D.</th>
<th>Code</th>
<th>Nursery District</th>
</tr>
</thead>
<tbody>
<tr>
<td>2628</td>
<td>PSB 211</td>
<td>18.0</td>
<td>2.5</td>
<td>P-Prepared</td>
<td>Vernon Merritt UP-Unprepared</td>
</tr>
</tbody>
</table>

Root Growth Capacity, as recorded at Skimikin in the week of May 31/82, average 2.38 with a range of 1.5-3.25.

Timetable

Sown @ Vernon 81-04-29
Extracted 81-10-25/26
Cold Stored @ Skimikin 81-11-02 to 82-06-01
Outplanted 82-06-01/02

4. Plot Layout

The pattern of site preparation being somewhat irregular, there was some departure from the usual sample plot layout:

Plot 1 consisted of 10 lines, each of 4 sections of 10 trees each i.e. 40 trees per line, within each line there is as close to a 20:20 combination of prepared: unprepared spots as ground conditions permitted.

Plot 2 has 8 lines, each of 5 sections, there being 10 trees per section, for a total of 50 trees per line.

The net result of the above is that 376 seedlings were planted on machine prepared spots and 424 on unprepared for a total of 800.

The Bracke Cultivator prepared intermittent scarified hollows for planting.

The unprepared spots were manually scalped free of grass over an area of 900 cm² per spot.

5. Access

From the Princeton field office, north 10 Km on Highway 5 to Missezula Lake road, then east and north on Missezula Lake Road 10 Km to turn off on to logging road, then east and north 8 Km to area.
6. Planting Date & Weather Data
   82-06/02-03

   Conditions
   Temperature Range: 18-21°C
   Weather: Variable, sun and cloud, Heavy showers light winds.
   Moisture: Soil uniformly damp to root zone.

7. Site Factors

   (a) Former stand: Spp  F & Pl
   (b) Biogeoclimatic subzone  INFd
   (c) Moisture  Dry
   (d) Soil Nutrients  Medium
   (e) Seedzone  2020
   (f) Elevation, m  1420
   (g) History  L.75
   (h) Slope % & Aspect  Flat
   (i) Soil Texture  Loam & fractured rock
   (j) Organic layer, cm  5-10
   (k) Planting in, %  Mineral soil 90, mixed 10
   (l) Vegetative competition  H: 100% grass where undisturbed
   (m) Slash: % cover & ht., cm  5-20 cm
   (n) Site prep: Method & year  MSP.81 (Bracke)
   (o) Grazing use  Medium
   (p) Existing regen per ha  520

8. Results

   Table 1: Percent Survival of Pl Plugs Planted on Machine Prepared and Unprepared Spots, After Two Growing Seasons, by Quality Classes

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Condition* of Planted trees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Good</td>
</tr>
<tr>
<td>Bracke Prepared</td>
<td>93%</td>
</tr>
<tr>
<td>Unprepared</td>
<td>88%</td>
</tr>
</tbody>
</table>

   *Good - without serious defect; Fair - with some conspicuous defect that the tree is likely to outgrow; Poor - so seriously damaged that it is unlikely to survive or develop into a merchantable tree.
Table 2: Total Height and Height Growth (cm) After Two Growing Seasons

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Total Height, cm</th>
<th>Height Growth, cm</th>
<th>% Increment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bracke prepared</td>
<td>18</td>
<td>29.6</td>
<td>11.6</td>
</tr>
<tr>
<td>Unprepared</td>
<td>18</td>
<td>29.4*</td>
<td>11.4</td>
</tr>
</tbody>
</table>

*Not significantly different at p = 0.05.

Comments

Contrary to expectations, there was virtually no difference in survival and height growth between the 2 treatments after 2 growing seasons. This can be attributed to the above-normal levels of precipitation which occurred in the 1982 & 83 growing seasons and the equalizing effect of the manual scalping on the unprepared spots.
<table>
<thead>
<tr>
<th>Appendix Number</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Key Map</td>
</tr>
<tr>
<td>2</td>
<td>Plot Location</td>
</tr>
<tr>
<td>3</td>
<td>Photographs of the trial site</td>
</tr>
<tr>
<td></td>
<td>2 growing seasons after planting.</td>
</tr>
</tbody>
</table>
APPENDIX 3
Illustrations of the Site 2 Growing Seasons After Planting

Overview of the site

Bracke Prepared Planting Spots