FINAL REPORT

RNX 7611

Mudpack Shipping Trial

Silviculture Branch
80-10-20
1. **Trial No.** - RNX 7611, Mudpack Shipping Trial

2. **Location** - Plots 1-4, McLeod Lake  
   Plots 5-8, Parsnip River,  
   F.D. 3, Prince George Region.  
   approx. 110 km northwest of Prince George.

3. **Objective** - To examine a number of options in growing, mudpacking, and shipping spruce that is to be planted in the Prince George Region.

4. **Treatment and Code** -  
   (a) 2+0 bareroot, grown at Surrey, winter lifted, and shipped to Red Rock for cold storage = BA.  
   (b) 2+0 mudpack, grown at Surrey, winter lifted, mudpacked (MP 218), and shipped to Red Rock for cold storage = MA.  
   (c) 2+0 bareroot, grown at Red Rock, fall lifted, and cold stored at Red Rock = BB.  
   (d) 2+0 mudpack, grown at Red Rock, fall lifted and shipped to Haney, mudpacked and returned in the fall to Red Rock for cold storage = MB.  
   (e) 2+0 bareroot, grown at Red Rock, overwintered in seedbed, spring lifted, and cold stored = BC.  
   (f) PSB 211, grown at Koksilah, extracted in fall and packaged, and cold stored there until shipped for planting = SD.

5. **Plot Layout** - At each of 2 locations: 4 plots x 6 treatments x 2 reps x 50 trees/line = 2400 trees.

6. **Planting Dates** - June 4-12, 1976.

7. **Assessments** -  
   August 18-19, 1976  
   May 11-13, 1977  
   September 17-24, 1977  
   September 19-20, 1978  
   June 17-18, 1980
8. Seedlot -


9. Site Factors -

<table>
<thead>
<tr>
<th></th>
<th>McLeod Lake</th>
<th>Parsnip River</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Biogeoclimatic Subzone</td>
<td>Boreal spruce (BWBS)</td>
<td>Boreal spruce (BWBS)</td>
</tr>
<tr>
<td>(b) Seed zone</td>
<td>6040</td>
<td>6040</td>
</tr>
<tr>
<td>(c) Elevation, m</td>
<td>760</td>
<td>680</td>
</tr>
<tr>
<td>(d) Former stand, history</td>
<td>P1(S) 73</td>
<td>M72</td>
</tr>
<tr>
<td>(e) Slope, %</td>
<td>0 - 5</td>
<td>0 - 5</td>
</tr>
<tr>
<td>(g) Topography</td>
<td>Flat</td>
<td>Flat</td>
</tr>
<tr>
<td>(h) Soil texture</td>
<td>Silt - loam</td>
<td>gravelly clay</td>
</tr>
<tr>
<td>(i) Organic layer, cm</td>
<td>7 - 10</td>
<td>2.5 - 5</td>
</tr>
<tr>
<td>(j) Planting in</td>
<td>mineral soil</td>
<td>mineral soil</td>
</tr>
<tr>
<td>(k) Veget. competition</td>
<td>medium</td>
<td>medium</td>
</tr>
<tr>
<td>(l) Slash cover %</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

10. Weather at Planting -

<table>
<thead>
<tr>
<th>Date</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 76-06-04</td>
<td>Cool, windy, cloudy, showers, 14°C</td>
</tr>
<tr>
<td>- 07</td>
<td>Light wind, thundershowers, 16-27°C</td>
</tr>
<tr>
<td>- 08</td>
<td>Cloudy, 16-21°C</td>
</tr>
<tr>
<td>- 09</td>
<td>Light rain, 10-18°C</td>
</tr>
<tr>
<td>- 11</td>
<td>Overcast, light rain, 10-12°C</td>
</tr>
<tr>
<td>- 12</td>
<td>Light rain, 11°C</td>
</tr>
</tbody>
</table>

11. Condition of Stock at Planting -

Specific details were not recorded. Stock was classified generally as dormant and in good - very good condition.
12. Results -

Table 1: Survival of White Spruce by Type of Stock and Treatment, After 1, 2, 3, and 4 Growing Seasons -

<table>
<thead>
<tr>
<th>Code</th>
<th>Stock Type</th>
<th>Grown At</th>
<th>Lifted</th>
<th>Cold Stored At</th>
<th>Growing Seasons After Establishment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>BA</td>
<td>2+0 BR</td>
<td>Surrey</td>
<td>Jan. 76</td>
<td>R. Rock</td>
<td>99</td>
</tr>
<tr>
<td>BB</td>
<td>2+0 BR</td>
<td>R. Rock</td>
<td>Nov. 75</td>
<td>&quot;</td>
<td>100</td>
</tr>
<tr>
<td>BC</td>
<td>2+0 BR</td>
<td>R. Rock</td>
<td>Apr. 76</td>
<td>&quot;</td>
<td>100</td>
</tr>
<tr>
<td>MA</td>
<td>MP 218</td>
<td>Surrey</td>
<td>Feb. 76</td>
<td>&quot;</td>
<td>99</td>
</tr>
<tr>
<td>MB</td>
<td>MP 218</td>
<td>R. Rock</td>
<td>Nov. 75</td>
<td>&quot;</td>
<td>100</td>
</tr>
<tr>
<td>SD</td>
<td>PSB 211</td>
<td>Kok.</td>
<td>Jan. 76</td>
<td>Kok.</td>
<td>98</td>
</tr>
</tbody>
</table>

Comments -
(a) Data from both locations were almost identical and were thus combined in the above table.
(b) The level of survival for all types of stock and treatments after 4 years growth was uniformly high.
(c) No one treatment had any particular advantage over the others.
(d) The above results were in part due to an unusually wet summer in the year of establishment in which rainfall at Prince George was 50% higher than the average.
(e) The decline in survival between years one and four has been very slight.

Table 2: Heights at Planting and After 4 Growing Seasons by Stock Types and Treatments -

<table>
<thead>
<tr>
<th>Stock Type</th>
<th>Grown At</th>
<th>Lifted</th>
<th>Cold Stored At</th>
<th>Total Height, cm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>When Planted</td>
</tr>
<tr>
<td>2+0 BR</td>
<td>Surrey</td>
<td>Jan. 76</td>
<td>R. Rock</td>
<td>48</td>
</tr>
<tr>
<td>2+0 BR</td>
<td>R. Rock</td>
<td>Nov. 75</td>
<td>&quot;</td>
<td>49</td>
</tr>
<tr>
<td>2+0 BR</td>
<td>R. Rock</td>
<td>Apr. 76</td>
<td>&quot;</td>
<td>49</td>
</tr>
<tr>
<td>MP 218</td>
<td>Surrey</td>
<td>Feb. 76</td>
<td>&quot;</td>
<td>37</td>
</tr>
<tr>
<td>MP 218</td>
<td>R. Rock</td>
<td>Nov. 75</td>
<td>&quot;</td>
<td>46</td>
</tr>
<tr>
<td>PSB 211</td>
<td>Kok.</td>
<td>Jan. 76</td>
<td>Kok.</td>
<td>50</td>
</tr>
</tbody>
</table>
Comments -
(a) Plugs grew faster and were marginally taller than other types of stock at final assessment.
(b) There was little difference in final height of the three bareroot treatments which were intermediate in performance between plugs and mudpacks.
(c) The growth and final height of mudpacks were the lowest of the three stock types.

P.E. Robson
Forester,
Silviculture Branch
80-10-20
SAMPLES OF ONE AND FOUR-YEAR DEVELOPMENT OF BAREROOT, MUDPACK AND PLUGS: MA=MP 218, BA= 2+0 BAREROOT, SD1= PSB 211

ONE-YEAR

2+0 BR

2+0 BR

RNX 7611
PLOT 4 ROW 1
BB 1
MAY 13 77

2+0 BR

2+0 BR

RNX 7611
PLOT 6 ROW 3
BB 1
MAY 13 77

FOUR-YEAR

2+0 BR

2+0 BR

40
30
20
10
0

40
30
20
10
0
SAMPLES OF ONE AND FOUR-YEAR DEVELOPMENT OF BAREROOT, MUDPACK
AND PLUGS: MA-MP 218, BA= 2+0 BAREROOT, SD1= PSB 211

ONE-YEAR

RNX 7811
PLOT 2 ROW 3
SD 1
MAY 13 77

FOUR-YEAR

2+0 MP PSB 211
2+0 BR PSB 211
RNX 7503 PLOT LOCATIONS
FOREST DISTRICT: PRINCE GEORGE
T.S.I.: C A 04500
MAP REF: 93J15W
SCALE: 20 CH. 1 INCH
PLOTS: #

Road A  Turn off highway # (& 3/4 mile north of McLeod Lake Hotel turn right 1/4 mile to plot on left side.
Road B  1 mile north of Hotel turn right 1/4 mile plots on right south of large landing.