PROGRESS REPORT SX85101Q

CHEMICAL ROOT PRUNE TRIAL

MERIDIAN-VANDERHOOF

C. CLARKE
REPORT SX 85101 0

PROGRESS REPORT
INTERIM ☐
FINAL ☐
DATE 86-07-17

TITLE CHEMICAL ROOT PRUNE TRIAL

Report prepared by: C. CLARKE & R. WINTER (Typed)

Report & distribution approved by: R. WINTER (Typed)

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

COPIES TO:

Approved:
Manager - R. BROWN (Typed)
PROGRESS REPORT SX85101Q
CHEMICAL ROOT PRUNE TRIAL
MERIDIAN-VANDERHOOF

1. **Objective:** To compare the survival, height growth and root development of PI plugs grown in copper treated and untreated containers.

2. **Location:** Two PI sites in the Prince George Region near Vanderhoof were selected, vegetative competition at both sites were significantly set back by good burns.

3. **Trial Stock**
   - Seedlot No - 2625
   - Seed Zone - 5070
   - Elevation - 823 M
   - Stock Type - PSB313
   - Nursery - Thornhill
   - Agency - Balfour Forest Products

4. **Plot Design and Stock Requirements**

   One Location X two treatments X 16 replications (rows) X 50 trees per row = 1600 trees in total
   The two treatments alternate within the 32 rows

5. **Trial Design**

   Treatments: PSB323 Lodgepole pine stock was used
   CO - Control treatment with no copper pruning of roots
   CP - Copper paint treatment which consists of PSB313 plugs which have been grown in styroblocks having their full cavity depth painted with copper latex paint.

<table>
<thead>
<tr>
<th>Administrative Number</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>SX85101Q</td>
<td>Meridian (A18170 CP51-71)</td>
</tr>
<tr>
<td></td>
<td>Licensee</td>
</tr>
<tr>
<td></td>
<td>Balfour Forest Products</td>
</tr>
</tbody>
</table>

   - Former Stand Spp
   - Site Class
   - Biogeoclimatic Subzone
   - Ecosystem Association
   - Moisture/Nutrient Regime
   - Soil Texture
     - SB (P1)
       - Medium
       - SBSel.
     - EI
       - 3/8
     - LS 60% coarse fragments, elevated
       Dystric Brunisol
Vegetation Competition - NIL
Grazing Use - NIL
Slash: % Cover and Height - 10/.3
LFH Layers: cm - N/A
Disturbance Symbol/Year - O80
Site Preparation Method: Year - Disc Trench - 84
Aspect and % Slope - Level
Elevation m - 1040
Ptlg Diff. Rating - 9

Results:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Copper (Pruned)</th>
<th>Control (Unpruned)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height at Planting</td>
<td>12.90 cm</td>
<td>16.50 cm</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>2.50 cm</td>
<td>2.70 cm</td>
</tr>
<tr>
<td>Height 1st Assess</td>
<td>18.40 cm</td>
<td>20.70 cm</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>3.50 cm</td>
<td>4.90 cm</td>
</tr>
<tr>
<td>R.C.D. at Planting</td>
<td>2.53 mm</td>
<td>2.66 mm</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.40 mm</td>
<td>.42 mm</td>
</tr>
<tr>
<td>R.C.D. 1st Assess</td>
<td>4.19 mm</td>
<td>4.06 mm</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>.55 mm</td>
<td>.53 mm</td>
</tr>
<tr>
<td>Survival (%)</td>
<td>99.20</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Discussion

The height differed significantly between the two treatments at planting and has been maintained through the first growing season. The two treatments differed insignificantly in favour of the control treatment at planting and again this slight difference was maintained. (app. 1-4)

Results

Statistical analysis indicates that the control and chemical treatments did not perform significantly different in height or caliper growth. Any differences that were evident at establishment were maintained after one year.

Statistical analysis also indicates that there was no significant difference between the control and copper pruned seedlings planted on disc-trench prepared planting spots compared to unprepared planting spots.

Burdett found in his trials that differences did not begin to appear between the 2 treatments until 4-5 years after establishment.
Please refer to App. 6 for meanings of abbreviations used in these tables.

BCSC
SX 85101 Q - MERIDIAN
VANDERHOOF
CHEMICAL ROOT PRUNE TRIAL

SECTION 5

SECTION 4

SECTION 3

SECTION 2

SECTION 1

1 2 3 4 5

1 * 1 * 1

32

EACH SECTION HAS 10 TREES
EACH LINE HAS 50 TREES
*CONTROL TREATMENT - ODD NUMBERED ROWS
COPPER TREATMENT - EVEN NUMBERED ROWS
EACH TREATMENT - 800 TREES
TOTAL TREES - 1600 TREES
MEASURED ROWS - 1, 6, 17, & 24
APPENDIX 6

RCDPL - ROOT COLLAR DIAMETER IN MILLIMETRES AT PLANTING
RCD1 - ROOT COLLAR DIAMETER AT FIRST ASSESSMENT
RCDINC - ROOT COLLAR DIAMETER INCREMENT AFTER ONE YEAR

HTPL - HEIGHT AT PLANTING IN CENTIMETRES
HT1 - HEIGHT IN CENTIMETRES AT FIRST ASSESSMENT
HTINC - HEIGHT INCREMENT AFTER ONE YEAR