Working Plan for SX 8710---Shade-cup & Wetting Agent Trial

1. Objectives

To compare the performance of Douglas fir PSB 313 stock when planted with or without Styrofoam Shade-cups and/or treatment with a chemical wetting-agent when planted on a dry rocky southern exposure, where previous plantations have failed.

2. Location

Block 209, Branch 1, T.L.7671, L 3117, 92J055, MacMillan Bloedel Ltd., Soo T.S.A., Pemberton Supply Unit, Squamish District, Vancouver Region (see attached 1:20 000 Key Map).

3. Trial Stock

<table>
<thead>
<tr>
<th>Seedlot No.</th>
<th>Stock Type</th>
<th>Code</th>
<th>Nursery</th>
</tr>
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<tbody>
<tr>
<td>1009</td>
<td>1+0 PSB 313</td>
<td>PSB</td>
<td>Elmore</td>
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</table>

4. Plot Design & Stock Requirements

As this is an operational re-planting of Block 209 involving approximately 5000 seedlings at 2.5 m spacing (+/- 0.5 m), we are conducting a trial involving four treatments (control, shade-cups, wetting-agent, shade-cups + wetting-agent) of 120 trees each (Totaling 480 for the Trial). These are in randomly selected, adjacent, blocks comprising six lines of five trees planted by two planters. Treatment blocks have been established to include fifteen trees planted by each of the two planters in a manner similar to the procedure outlined in Appendix 6-21 of the Silviculture Manual, in consultation with Norm Caldicott, R.O. Silviculture, Squamish District. The Schematic Plan (1:250) of the established Trial (showing none of the actual variation in planting spacing) is attached along with 1:20 000, and 1:5000 maps of the Trial location.

5. Dates of Planting and Assessment

Planted April 1987
Assessment Fall 1987, Fall 1988, and a 5 year Final, Fall 1991.

6. Summarize and Report

Summarize 5 year data and issue final report Winter 1991/92.

7. Report Distribution

Research Silviculturalist, Vancouver Regional Office
Title: Planting Trial using Shade-cups & a Wetting Agent


Location: Lillooet River Valley

Region/District Vancouver/Squamish District

Objectives: To test the efficacy of Styrofoam Shade-cups and/or treatment with a chemical wetting-agent in the survival of 1+0 Douglas fir PSB 313 stock when planted on a severe site (dry rocky southern exposure), where previous plantations have failed.

Design: See attached Schematic Plan. The treatment numbers were selected randomly from a hat without replacement for each of the four vertical columns of four blocks. In the Field, every second planting run, from right to left was planted by T. L. Napier. All odd numbered runs were planted by J. M. O'Neill.
Planting Day 1 - April 1, 1987  0830 - 1430 hrs

- 200 trees dipped in wetting-agent slurry.

- "Alcosorb A33" powder mixed at a rate of 200 gm/22.5 litres of water approximately 15 minutes before use. By dipping 5-6 trees at a time, the plugs became well coated with the wetting-agent gel. The additional weight of the plugs was found to be minimal. The benefits of reducing the desiccation of the planting stock in the planting bags with gel was noticeable in that the gel treated plugs held together better.

- 90 of the 200 wetting-agent treated trees were planted on Day 1 (in addition to 60 untreated seedlings).

- The remainder of the trees were put under a "Silvacoool" tarpaulin overnight.

- Stock was quite healthy looking with good colour (only one chlorotic seedling was found).

- The top 10 cm of soil was dry.

- Lots of rock and slash on the site. Good soil under 20 cm of rotten wood, duff, and roots. Tough Planting with lots of screening and picking out of rocks.

- Very warm temperatures estimated to be a minimum of 25 - 30 Degrees Celsius.

- The top trial blocks are very rocky; thus we expect very poor survival in blocks D-1, D-2, & D-3.

Planting Day 2 - April 2, 1987  0900 - 1445 hrs

- Planted blocks A-1, A-2, A-3, B-1, B-2, B-3, C-1, C-2, C-3. Very tough planting was encountered in blocks A-1, B-1, & C-1. Owing to the predominant occurrence of rock, roots, & duff, we anticipate poor survival in those three trial blocks.

- The day was warm (though cooler than Day 1).

<table>
<thead>
<tr>
<th>Time</th>
<th>Temperature</th>
<th>Humidity</th>
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</thead>
<tbody>
<tr>
<td>1030</td>
<td>25 °C in sun</td>
<td>35 %</td>
</tr>
<tr>
<td>1300</td>
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<tr>
<td>1500</td>
<td>34 °C in sun</td>
<td>31 %</td>
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<tr>
<td>1600</td>
<td>26 °C in shade</td>
<td>37 %</td>
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