REPORT SX 86404N

INTERIM

FINAL

DATE 86-05-07

TITLE FERTILIZING TRIAL OF NUTRI-COAT ON PLANTED SPRUCE AND FIR SEEDLINGS.

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Report & Distribution approved by: R.B. McNaught (Signature)

R.B. McNaught (Typed)

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Downie Street Sawmills
Revelstoke District
Nelson Region
Silviculture Branch

Approved: D.L. Oswald (Signature)

D.L. Oswald (Typed).
WORKING PLAN

SX36404N

DOWNIE STREET SAWMILLS LTD.

Box 1300, Revelstoke, B.C.

VOE 2S0

FERTILIZING TRIAL OF SPRUCE

AND DOUGLAS FIR AT THE TIME OF PLANTING.
Fertilizing of Interior Spruce and Douglas Fir at the time of planting.

Introduction

From past fertilizing trials it seems that fertilizing at the time of planting can greatly improve seedling growth and vigor and thus improve plantation success. Therefore, we propose that operational trials of fertilization be conducted on a cross section of our planting sites in the 1985 spring planting season.

Locations

1. T.S. A10295 CP K Blk 4
2. T.S. A10295 CP A-Blk 1
3. T.S. A10295 CP T-Blk 5
4. T.S. A10295 CP K-1 Blk 1
5. F.L. A18991 CP 15

Objectives

1) To determine operational problems and costs associated with fertilization at the time of planting
2) To assess the growth response and survival of fertilized seedlings and compare the costs vs benefits.

Biological Constraints

1) A slow release fertilizer will be used. Nutri-coat 16-10-10 (N-P-K) with a 9 month release period (nutri-coat is comparable to Osmocote but somewhat less expensive)

Participants

Downie Street Sawmills Ltd.; Bryan Mills, Marian Pidgeon
Ministry of Forests, Revelstoke; Bill Beard
Nelson Regional Office; Chris Thompson
Responsibilities

Downie Street Sawmills Ltd. – Working plan
- liaison with Silviculture Branch
- technical aspects of field problems
- assist with data analysis and reporting
- requisition supplies and fertilizer
- compiling reports
- selection of sites
- conducting field operations
- conducting subsequent survival and growth assessments
- preparing reports, providing field descriptions etc.

Schedule

| Plant – Spring 1985                      | Establishment report and cost data. |
| Assessments – Fall 1985                 | Report Fall 1985-86                  |
| Fall 1986                              | Final Report 1989/90                 |
| Fall 1989                              |                                         |

Trial Design

1) Treatments: Control and 9 month release nutri-coat, 30 grms broadcast to a 10 cm radius around each seedling

2) Layout
- five separate plantations will be used for fertilization trials
- plantations vary in subzone and ecosystem association in to compare which sites benefit the most from fertilization
- experienced forest technicians will apply the fertilizer and measure seedlings.
- on each plantation 200 seedlings will be treated with nutri-coat and 200 seedlings will be used as a control.
- within the plantation 400 trees will be staked and measured and 200 of these trees will be fertilized with 30 grms of Nutri-coat.
- trial location will be situated on a representative portion of the plantation (Do Plantation and E.A.)

Measurements taken:

<table>
<thead>
<tr>
<th>TIME</th>
<th>SURVIVAL</th>
<th>HEIGHT (cm)</th>
<th>Root Collar Diameter</th>
<th>% Trees Free Growing</th>
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<tbody>
<tr>
<td>Planting</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Year 1</td>
<td>+</td>
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<td>Year 2</td>
<td>+</td>
<td>+</td>
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<tr>
<td>Year 5</td>
<td>+</td>
<td>+</td>
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3) Cost arrangements
   as this is a trial and because the company does not have any past costs to base project on, the fertilizer will be applied by experienced forest technicians. Actual costs will be determined by obtaining productivity counts (trees fertilized and measured per man-day) combined with operational judgement by the licensee.

4) Site descriptions
   each plantation selected for these trials will be characterized as fully as possible. Sites will be ecologically classified as well as given brush potential hazard ratings. Description of soil type, topography, slash, planting conditions (ie wx) and planting stock will also be included.
SCHEDULE A - DETAILS OF STOCK

Sx Trial # 86.403 N

Sx trial for fertilizing Douglas Fir and Spruce seedlings at the time of planting.

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>SPECIES</th>
<th>STOCK TYPE</th>
<th>AGE</th>
<th>SEEDLOT</th>
<th>NURSERY</th>
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<tr>
<td>C.P. K Blk. 4</td>
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<td>3105</td>
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<td>Douglas Fir</td>
<td>PSB 313</td>
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<td>2052</td>
<td>HAR.</td>
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<td>4282</td>
<td>HAR.</td>
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<td>4337</td>
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