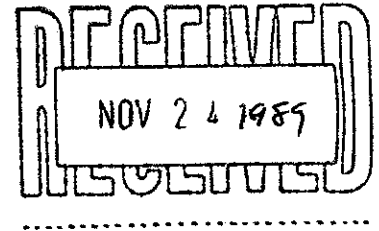


6888K

Sx88105Q

Working Plan
Briquette Fertilizer Trial



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INTRODUCTION

Results of E.P. 858 and studies by Burdett, Herring and Thompson (1984) indicate that fertilizing interior spruce seedlings at the time of planting can double plant biomass within 2 years. Where seedling survival is jeopardized by rapidly encroaching competition, fertilizing newly planted stock may provide an effective means to improve plantation establishment success. Fertilization with Woodace Briquettes may improve performance of planted seedlings. A fertilization trial will be established with interior spruce on several sites in Prince George Region. The trial has the following objectives:

1. Objective

To compare the height and root collar diameter growth, survival and root growth development of seedlings treated with Woodace nutrient tablets (23-2-0).

2. Fertilizer

23-2-0 (17 gram) briquettes

Total nitrogen (N) 23.0%

2.3% Urea Nitrogen

20.7% Water Insoluble Nitrogen

Available Phosphoric acid (P_2O_5) 2.0%

Derived from isobutylidene diurea, magnesium silico-phosphate

Secondary Nutrient

Magnesium as Mg*

* The materials in this product are occluded to produce 1.8% slow release available phosphoric acid and 0.90% slow release magnesium.

* Osmocote 18-6-12 (N-P-K) with a 9 month release period (at 25°C) will be applied in 30 gram units for two treatments.

3. Location

Two sites will be selected for this trial in the Stuart Lake area of the Dawson Creek Forest District. The sites have been site prepared under FRDA project 1:10 in 1987.

4. Trial Stock

| | |
|------------------------|-------------------------|
| Seedlot No. - 8779 | Stock Type - Sw PSB313A |
| Seedzone - Hudson Hope | Nursery - IFS |
| Elevation - 1067 m | N.T.G. - 93/0/9/B2/ |

5. Treatments

- C0 - Control treatments with no fertilizer added
- B1 - Control seedlings with one briquette placed in the bottom of the planting hole
- B2 - Control seedlings with one briquette placed at the top of the planting hole
- B3 - Control seedlings with two briquettes placed in the bottom of the planting hole
- B4 - Control seedlings with two briquettes placed at the top of the planting hole
- F1 - Control seedlings with 30 grams of osmocote placed in the bottom of the planting hole
- F2 - Control seedlings with 30 grams of osmocote placed around the seedling at ground level.

6. Plot Design and Stock Requirements

4 replications x 7 treatments x 2 locations x 35 trees per line = 1960
Plus trees for RGC and dry weight measurements.

- (a) Two locations will be established in the Dawson Creek Forest District near Stuart Lake.
- (b) Each location will consist of 28 lines spaced 3 metres apart. The 35 trees per row will be spaced 2.0 metres apart within the row. Each tree in the row will be flagged for identification purposes. There will be four replicates of each treatment.

7. Seedling Requirements

| | | | | | |
|------------|------------|------------|---------|---------|------------|
| Region | For. Dist. | Location | Nursery | Seedlot | Stock Type |
| Pr. George | Dawson Cr. | Stuart Lk. | IFS | 8779 | PSB313A |

| <u>Locations</u> | <u>Treatments</u> | | | | | | |
|------------------|-------------------|-----|-----|-----|-----|-----|-----|
| | CO | B1 | B2 | B3 | B4 | F1 | F2 |
| Stuart Lk.#1 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| Stuart Lk. #2 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |

Establishment: Total Trees Required = 1,960
Root Growth Capacity Tests = 112
Shoot/Root Dry Weights = 140
Total Seedlings Required = 2,212

SCHEDULE OF ASSESSMENTS AND REPORTING

| Measurements | Estab. S/88 | Fall 88 | Fall 89 | Fall 92 |
|--------------------|-------------|---------|---------|---------|
| RGC Tests | x | | | |
| Shoot/Root Weights | x | | | |
| Height/Caliper | x | x | x | x |
| Survival | | x | x | x |
| Photography | x | | x | x |
| Interim Report | | | x | |
| Final Report | | | | x |

Seedlings 11-20 in each row at each location will be measured throughout the duration of the trial for height and caliper. Trees 1-25 in each row, will be assessed for survival. Trees 26-35 will be used for excavations for photography and root examination.

ESTABLISHMENT REPORT

Fall 1988 - this report will include original stock measurements and summary, maps (1:15,840 or 1:20,000) showing location of test sites, maps (1:5000 or 1:10,000) showing location of staked lines within treatment blocks, a completed FS 739 and a Planting Report. Trial locations will be documented on mylars and History Records. A copy of a coding sheet is enclosed to show how heights and root collar diameters will be recorded from establishment through to final assessment.

8. Report Distribution

Research Officers - All Regions

Silviculture Officers - All Regions

Resource Officer - Dawson Creek

Special Projects Coordinator - Prince George Region

UBC Faculty of Forestry

Silviculture Agrologist - G. Matthews

Manager, Nurseries & Extension Services - C. Kooistra