To: A. E. McDonald  
Saanich Test Nursery

From: Silviculture Branch

Date: February 16, 1988

File: 955-20-2

Re: Sx 88 202 Q Media Trial

Introduction

Increasing levels of root diseases in production nurseries indicate problems caused by lack of aeration and excess water holding capacity in present growing media. Under heavy watering conditions, Langerud and Sandvik showed much better growth results when hydrophobic mineral wood was added to peat. This trial will explore means of improving soil aeration with mineral wool and other materials.

Experimental Design

All treatments will consist of three 313A styroblocks. Some sawdust based media will not contain dolomite, but all should contain 750 g/m³ Micromax. Nutrients will be provided with Peters 10-30-20 at 75-100 ppm N during active growth and 50 ppm N as a finisher, plus STEM at 1/2% of fertilizer weight throughout.

Seedlots

The seedlots to be used are:

Sw 4177 (MRB) 93H11/83/4177/.91 -95% 436 s/g  
Fdc 7752 (CSM) 92M10/83.7752/.46 -94% 105 s/g  
Fdi 8149 (2030) 82L12/8/8149/1.125 -89% 106 s/g

All seedlots should be double sown and thinned to one seedling per cavity.

Treatments

1. Control - 3 peat (Pions Seba '87):1 Vermiculite   
   - 2 kg/m³ Green Valley 10 mesh and finer dolomite  
   - 750 g/m³ Micromax
2. 3 peat (Fisons Seba '87):1 composted sawdust
   - 2 kg/m³ dolomite
   - 750 g/m³ Micromax

3. 1 peat (Fisons Seba '87):1 composted sawdust
   - 2 kg/m³ dolomite
   - 750 g/m³ Micromax

4. 3 peat (Fisons Seba '87):1 hydrophobic Capogro mineral wool
   - 2 kg/m³ dolomite
   - 750 g/m³ Micromax

5. 4 peat (Fisons Seba '87):1 hydrophobic Capogro mineral wool
   - 2 kg/m³ dolomite
   - 750 g/m³ Micromax

6. 3 peat (Fisons Seba '87):1 hydrophobic Japanese mineral wool
   - 2 kg/m³ dolomite
   - 750 g/m³ Micromax

7. 4 peat (Fisons Seba '87):1 hydrophobic Japanese mineral wool
   - 2 kg/m³ dolomite
   - 750 g/m³ Micromax

8. 3 peat (Fisons Seba '88):1 Vermiculite
   - 2 kg/m³ dolomite
   - 750 g/m³ Micromax

9. 3 peat (Fisons Seba '88):1 composted sawdust
   - 2 kg/m³ dolomite
   - 750 g/m³ Micromax

10. 1 peat (Fisons Seba '88):1 composted sawdust
    - 2 kg/m³ dolomite
    - 750 g/m³ Micromax

11. 3 peat (Fisons Seba '88):1 hydrophobic Capogro mineral wool
    - 2 kg/m³ dolomite
    - 750 g/m³ Micromax

12. 4 peat (Fisons Seba '88):1 hydrophobic Capogro mineral wool
    - 2 kg/m³ dolomite
    - 750 g/m³ Micromax

13. 3 peat (Fisons Seba '88):1 hydrophobic Japanese mineral wool
    - 2 kg/m³ dolomite
    - 750 g/m³ Micromax
14.  3 peat (Pisons Seba '88):1 hydrophobic Japanese mineral wool
    - 2 kg/m$^3$ dolomite
    - 750 g/m$^3$ Micromax

15.  Composted sawdust
    - 0.5 kg/m$^3$ Viterra Planta-gel
    - 750 g/m$^3$ Micromax

16.  2 composted sawdust:1 hydrophilic Capogro mineral wool
    - 750 g/m$^3$ Micromax

17.  2 composted sawdust:1 hydrophilic Japanese mineral wool
    - 750 g/m$^3$ Micromax

18.  3 peat (Lakeland):1 Vermiculite
    - 2 kg/m$^3$ dolomite
    - 750 g/m$^3$ Micromax

Observations Required

All treatments will be processed for morphological comparison in late 1988. Subjective observations such as colour, susceptibility to disease, plug formation and water requirements should be recorded.

G. Matthews
Agrologist
Silviculture Branch