SX 84210Q

SOIL WETTING AGENTS

Working Plan

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Silviculture Branch

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subject: sx 84210 q soil wetting agents

Introduction

Nurseries growing coastal Douglas fir routinely use severe drought stress as a means of initiating terminal bud set. One disadvantage of this practice is that dry peat is hydrophobic, often requiring several hours of watering to be wetted. Past trials indicated that hydrophilic polymers such as Planta Gel in the medium will allow instant rewetting. Problems associated with expanding media volume may be minimized if smaller amounts of Planta Gel are utilized.

Experimental Design

Each treatment will consist of 3 PSB 313 Styroblocks. Treatments should be grown in a shelterhouse or open compound. All treatments will be based on 3 peat: 1 vermiculite medium containing 3 kg/m³ 10 mesh and finer dolomite lime, 0.13 kg/m³ FTE 503 trace elements and 4 kg/m³ Osmocote 18-6-12. All treatments will receive "starter" and "finisher" soluble fertilizers as in production nurseries.

The seedlot to be used is, Fde (SZ 1040) 93G12/82/2891/175 94%

Treatment 1. Control. No amendments added.
2. 0.5 kg/m³ Planta Gel added to growing medium.
3. 1.0 kg/m³ Planta Gel
4. 1.5 kg/m³ Planta Gel
5. 2.0 kg/m³ Planta Gel
6. 0.5 kg/m³ Uni-Mix
7. 1.0 kg/m³ Uni-Mix
8. 1.5 kg/m³ Uni-Mix
9. 2.0 kg/m³ Uni-Mix
Requirements

9 treatments x 3 blocks = 27 PSB 313's
- 5346 cavities x 2 seeds = 10692 seeds.

All 27 blocks will contain Osmocote at 4 kg/m³. There will be 3 blocks each of the above Planta Gel and Uni Mix rates.

Observations Required

Observations will be required to determine the time necessary to saturate blocks after periods of extreme drought stress. At the end of the growing season, all treatments will be processed for comparative morphological descriptions.

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