Re: Sx 88 203 Gypsum Trial

Introduction

The use of gypsum as a growing medium amendment in production nurseries is a convenient source of calcium and sulphur, and apparently has prevented soil pH from rising above 5.5. This trial will assess the influence of gypsum (CaSO₄²⁻) on soil pH, and tissue Ca and S levels.

Experimental Design

All treatments will consist of four 313A styroblocks utilizing standard 3 peat:1 vermiculite containing different lime and gypsum rates and 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/B3/4177/.91 -95% 436 s/g
Pdc 7752 (CSM) 92M10/B3/7752/.46 -94% 105 s/g
Fdi 8149 (2030) 82L12/B7/8149/1.125 -89% 106 s/g
Pl 3679 (CIT) 92J15/B2/3679/1.32 -94% 351 s/g

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

Treatments

All based on acid (pH 4-4.5) peat
All 3 peat:1 vermiculite
All contain 750 g/m³ Micromax
1. 3 kg/m³ Green Valley 10 mesh and finer dolomite lime.
2. 2 kg/m³ dolomite.
3. 1 kg/m³ dolomite.
4. No lime amendments.
5. 3 kg/m³ dolomite + 3 kg/m³ gypsum.
6. 3 kg/m³ dolomite + 2 kg/m³ gypsum.
7. 3 kg/m³ dolomite + 1 kg/m³ gypsum.
8. 2 kg/m³ dolomite + 3 kg/m³ gypsum.
9. 2 kg/m³ dolomite + 2 kg/m³ gypsum.
10. 2 kg/m³ dolomite + 1 kg/m³ gypsum.
11. 1 kg/m³ dolomite + 3 kg/m³ gypsum.
12. 1 kg/m³ dolomite + 2 kg/m³ gypsum.
13. 1 kg/m³ dolomite + 1 kg/m³ gypsum.
14. 3 kg/m³ gypsum.
15. 2 kg/m³ gypsum.
16. 1 kg/m³ gypsum.

Observations Required

pH readings of the peat source, and of each medium will be required

- after germination and prior to fertilization
- at 10 weeks from sowing
- prior to changing to finisher fertilizer rates
- at the end of the growing season.

Tissue analysis including sulphur will also be required on the last two dates for pH readings. Other observations will include colour and tendencies toward iron chlorosis. All treatments will be processed for morphological description late in 1988.

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