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FORESTS DEPARTMENT RESEARCH CONFERENCE 1980

Progress Report - T. Boughton, Como Research.

1. Survey of mycorrhizal incidence in Donnybrook Sunklands.

Field work is completed. Four mycorrhizal types have had their fungal partner identified and are being described. There is a large effect of plantation management technique on mycorrhiza populations.

2. Pot trial testing P. cinnamomi susceptibility of P. radiata under different fertiliser treatments.

Comparison of nil, P only and N & P treatments. Deaths only occurred in nil and N & P treatments. The effect is thought to be due to differences in nitrogen, calcium or copper nutrition of the trees.

3. Pot trial testing effect of P. radiata genotype on P. cinnamomi susceptibility.

Seedlot NZ7 shows a remarkable tolerance to inoculation. There appears to be a complete range of tolerance in the seedlots tested.

4. Testing different mycorrhizal types against P. cinnamomi.

No mycorrhizal type plated to date has been able to resist P. cinnamomi infection or systemically protect the tree. There may be small differences between different mycorrhizal types.

5. Investigations into the effect of clover on disease development in Sunklands plantation.

P. cinnamomi can move from inoculum placed in pots or in the field and infect subclover roots and burrs. The implications of this observation for pine disease are not known.

6. Assessment of P. cinnamomi and P. cryptogea disease risk at the Nannup Nursery.

No Phytophthora species have been isolated from the nursery. A pot experiment has shown that P. cinnamomi can cause pre and post emergent deaths of P. radiata grown in nursery soil.

7. Introduction of new mycorrhizal fungi to the Nannup Nursery.

Four new mycorrhizal fungi, 1 from U.S.A., 1 from S.A. and 2 from W.A., have been introduced to the nursery.