

## BOOK REVIEWS

FUNDAMENTAL STUDIES TO IMPROVE NURSERY PRODUCTION OF *PINUS RADIATA* AND OTHER PINES, by D. G. M. Donald. *Annale Universiteit van Stellenbosch*, Vol. 34, Series A, No. 1 (1968).

This rather lengthy bulletin begins with a brief description of South African plantations, forest soils and practice. This is followed by two parts, the first dealing with seed and the second with nursery practice. Part I contains information on seed production, cone size, and seed size and age related to germinative capacity and germinative energy; much of this is of value, and could well be followed up in New Zealand. This is followed by a discussion of natural dispersion of seed and litter. Purity and germination of seed are then examined, and the need for seed testing is stressed. Finally, seed treatments have been studied and reported upon. Here again, work with hydrogen peroxide to terminate dormancy is of interest.

In Part II are examined fertilizing and fertilizers; sowing density, depth and cover; pricking out and the effect on root systems and subsequent survival and growth; control of fungi and weeds; and the use of bird repellents. A final chapter lists conclusions and recommendations. Details of results of trials are given in voluminous appendixes, and results of statistical tests abound in the body of the paper. In addition, cost data are included in some instances.

Although there are useful data in this paper, the first impression one obtains is of the comparatively antiquated practices still current in South Africa. Fertilizing seems to be uncommon, Thiram only just being introduced, weeding being mainly by hand, although Donald recommends multiple applications of white spirit, and bird control still being attempted by bird scarers (without marked success). Moreover, even where sites are such that open-rooted plants can be used, seedlings are normally pricked out into boxes or individual containers. It appears, therefore, that the investigations being carried out by the author are very necessary, and somewhat belated. This is surprising in view of South Africa having been in the forefront of the move towards intensive pruning and thinning regimes.

From this reviewer's point of view, the discussion on causes of "tree toppling" was of some interest (pp. 99 to 110). The author attributes this mainly to faulty pricking out, but his investigations are strictly limited. This disorder seems to be of world-wide occurrence in plantations. Perhaps we need to look more carefully at the whole subject of nursery and planting practice and root development.

This is not a very inspiring paper, and could have been much improved by heavy pruning. The impression one gains is that the author wants to cram everything in, relevant or not. For example, is a voluminous table on forest soils germane to the subject? Again, what purpose is served by including a

chapter on natural dispersion of seed and litter in radiata pine stands? Nor is the title strictly correct — these are not “fundamental studies”, even when liberally laced with statistical analyses, but trials to determine the most suitable nursery practices. The paper also suffers from “tableitis”, and there are many inconsistencies here. Why are some tables numbered, and others not? For example, items on pp. 14 and 61 are certainly tables. Throughout the text, the undigested results of analyses disrupt the thoughts of the reader. They would be better in appendixes along with the data; how much easier it is to read that “the result was such-and-such, significant at the 1% level”.

However, one table, which would have been of interest, is indexed as Appendix 49; this has been omitted for some reason.

It is also felt that cost data could have been deleted from the narrative, and dealt with in a separate section, since the information is likely to be ephemeral in comparison with much of the factual matter. The author could also with advantage have given some definitions — e.g., what is a “labour unit”?

The lack of organization in the paper might well be due to the multiplicity of the trials being carried out by the author and a zeal to see marked improvement in South African nursery practice, for which one can find a good deal of sympathy. It is hoped that he will shortly stumble across the *Proceedings of Symposium No. 9* (Forest Nursery and Establishment Practice in New Zealand), recently published by the NZFS Forest Research Institute, to add fuel to his crusading fire.

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FOREST MAP OF NEW ZEALAND. 1: 63,360, by J. L. Nicholls.  
1966, Forest Research Institute, N.Z. Forest Service.

In the last issue of this *Journal*, J. G. Groome reviewed the first six maps of this series. Since then, a further nine sheets have been published, covering in part a tract of land from Whakatane in the north to Tutira in the south, and embracing a good proportion of the Urewera forests.

Groome's eulogy on the quality of the series and his expression of concern over publication delays, are supported by the present reviewers. The map layout, draughting, and printing quality are of a particularly high standard; and the concise yet ample locality reviews, on the reverse of each sheet, will be of good service to the wide range of people who will use them. Perhaps more attention could have been given to relating forest patterns to the various influences of physiography, climate, soils, fire, and animals; and authors wishing to quote the series will have some difficulty in determining the exact year of publication of a particular map, but these are points of minor concern. The reviewers feel that their contribution may lie in discussing the need for classification, and examining the classification technique.