

TE KURA NGAHERE

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EDITORIAL.

OUR CURRENT NUMBER.

Te Kura Ngahere commences its third volume under a cloud, for which there is no need to apologise. The new size of the Journal is a permanent feature decided upon some time back, and brought into effect with the commencement of Vol. III. This will make for easier handling and binding. The reduced contents, and omission of illustrations, however, are forced upon us by the present financial stringency. It must be explained that even under the arrangement with the Institute of Foresters, subscriptions to Te Kura Ngahere cover slightly less than half the usual cost of production. In past years a large share of the difference has been generously borne by Canterbury College, but this year only a small subsidy can be provided by the College, and we are constrained to produce an issue more nearly within our own means.

The Editorial Committee, in reducing the number of pages, has not only had to refuse several articles, but to condense heavily those that were accepted. This has resulted in the omission of much data re. methods employed, and discussion of findings essential to scientific co-workers. The full text of all papers is preserved, however, in the Library of the School of Forestry, and will be available to those wishing to carry the matter further.

In view of the very critical time through which forestry is passing in New Zealand, it might be held fitting that the Editor should have something to say upon the forest policy of New Zealand, and the aims and scope of our profession. The Committee had arranged for the preparation of a critical analysis of our present position in forestry with a suggested policy for future development. This has now been postponed, and in view

of the magnitude and importance of the subject, it has been suggested that the matter be referred to the Institute of Foresters as a suitable task for a committee of three. Meanwhile the Editor withholds comment. If our past work has been well done, we will survive the tempest and the shouting, and by next year will perhaps see more clearly our future goal.

A STUDY OF SITE FACTORS.

New Zealand may be justly proud of the rapid progress which Forestry has made in latter years, yet this pride should be qualified by the realization that too little attention is being paid to the correct allotment of species to localities.

The consequences of establishing a species in a locality which is unsuitable for its normal growth are many and far-reaching: Early failures due to exposure with the inevitable blanking, susceptibility to frost and snow injury, to disease and insect damage, are amongst the chief dangers.

Unfortunately, such consequences as the above are being suffered in many parts of New Zealand, and as may be expected, *Pinus radiata*, so widely planted throughout, is chiefly involved.

There has been a tendency of latter years to attribute to this species an exaggerated hardiness and adaptability to extreme conditions which is not justified, and this belief has, to a great extent, obscured the necessity of studying the true soil and climatic requirements of this and more important timber trees.

The assumption that *Pinus radiata*, for example, is necessarily able to produce economically a timber crop under almost any conditions is a proven fallacy, and is wrought with danger. Trouble must be taken to choose suitable localities for this species just as carefully as for more demanding species as Redwood or Douglas Fir.

In the choice of species for planting, the "degree of resistance" of the tree should be known and considered, amongst other things, in relation to the locality.

Thus, although it is generally known that *Pinus ponderosa* develops late in the season, and with its heavy resinous content is strongly resistant to frost and snow, it is not so generally realised that *Pinus radiata*, as a result of its rapid and early spring growth, tender shoots and brittle branches is most susceptible to severe climatic conditions.

In the past, the planting of our exotic forests has

been governed too much by the desire for rapid growth and quick yield, and it cannot be too strongly urged that a more balanced "Forest sense" be developed and that research be encouraged towards the correlation of experience which will lead to the planting of "the right species in the right locality."

FOREST MENSURATION IN NEW ZEALAND.

One of the most striking features of our present position in technical forestry in New Zealand is the small progress that has been made in forest mensuration.

In the old days, when millers paid royalty on output, there was little need of any accurate measurement of standing timber. Most millers logged their own bush, the tax system required no assessment of capital value of standing timber, continuous production was undreamt of, and the judgment of the bush boss as to whether an area would pay to haul off was all the appraisal required.

The past ten years, however, have seen a change to a system of selling State timber on the estimated standing volume, a widespread adoption of contract logging, a statutory charge to the Forest Service that it place its forests under permanent management, and an enormous activity in the planting of exotic trees both by State and private efforts, calling for the investment of several millions sterling which, it is stated, will be rewarded by most lucrative returns, to be secured from future yields.

All these matters call for a complete and reliable system of forest measurements. Yet our progress in this line has been quite inadequate. We have standard volume tables for two only of the native species. An accurate log rule has been compiled, but has not been put into use. A few local volume tables have been hurriedly compiled for particular areas of *P. radiata*, while some very questionable work has been done by sample trees. Several studies of yields have been made from time to time, for some of the commoner exotics, but these have not been unified or completed.

It must be admitted that our cruising system has not been adequately checked, and that our knowledge of yield is but in infancy. The wildest mis-statements have been made on the subject of yield by interested persons in all positions. Yet persons connected with forestry in New Zealand are the original source of most of these mis-statements. It is often said that the predictions of yield made by bond-sellers for forestry companies are greatly

exaggerated, but many of their claims can be traced to definite cases of faulty measurements based on false premises and carried out by persons not understanding the methods they were attempting to apply. This we know, but when asked what, then, is the truth, we can only answer that we do not know—we have no reliable data.

There is an urgent need for a full study of the whole field of forest measurement in New Zealand, embracing first the drawing-up of a uniform standard procedure, and second the actual prosecution of a series of studies of growth, yield, and conversion, and the elaboration of standard tables.

The progress made so far has been done by the State Forest Service, and has been marked by differences in method, discontinuity and incompleteness, having suffered through being a part-time job of many field officers with inadequate arrangements for co-ordination. The private companies have done nothing, presumably holding that such work, being for the benefit of all, should be done by the State. Yet the State Department, under a previous administrator, at least, held that the tables it had prepared were confidential, and not to be available to other organisations.

It may be of interest to note that the U.S. Forest Service has organized a special office of Mensuration for standardizing methods, and prosecuting all future work. In that country the Government Department is working quite independently of all outside forestry interests, but its results are published freely.

It is of prime importance to the State, the timber growers, and the sawmillers that the standards of mensuration in New Zealand be co-ordinated, improved, and extended. It should be possible for these interests to arrive at a common ground of understanding which will make it possible to have this work carried out as a special full-time project by a competent staff.

