

It has early on been made clear that if tree-planting for commercial purposes is to pay in New Zealand, where both interest and labour are higher than in Europe, trees which supply timber at an early age are essential. To this phase of the question very little attention has been given. And yet it is now well known that *Pinus radiata* will yield a really good second-class timber when from thirty to thirty-five years old, and that many Australian gums grow with the greatest rapidity and have an extraordinary yield. Had these trees been hardy in Europe generally, where afforestation is practised, they would long ago have been included as amongst the important timbers of the world. *Pinus radiata* is now being raised in small numbers in the State nurseries, but in, we consider, quite insufficient quantities.

With regard to the kind of timber required, there has been little attempt to meet the various demands for various classes of timber in the future. The durable wood for railway-sleepers, &c., might be supplied from the larch if the plantations succeed; and there is a certain amount of building-timbers being produced, but rapidly growing cheap timbers for carriage of agricultural produce have been and are being much neglected. It might pay quite well, for instance, to plant *Pinus radiata* much further apart than 4 ft., so as to produce fruit-case and rough-box timber in about twenty-years.

Regarding provision against fire, that is specially dealt with further on in section 10. Here we need only say we consider the present fire-breaks inadequate.

The tree-planting methods, both now and in the past, appear to be on good lines, and where the right trees have been used the plantations are thriving excellently. They are also—the Austrian pine stands excepted—remarkably free from disease.

Generally speaking, the individual plantations are of sufficient size, though it would have been better in some instances to have provided more land from the outset. This is a matter, however, which does not specially concern the present practical management of the planting operations.

Experiments are of the greatest importance, and obviously a good many have been carried out; indeed, much of the earlier planting was experimental. Unfortunately, many so-called experiments were on too large a scale, and can hardly, on that account, be deemed experiments, since their failure entailed considerable loss. A true experiment should be an experiment only, and should be on a comparatively small scale, and there should be no thought of direct profit. Also, planting experiments should be confined to stated places, where they can be watched carefully. As it is at present blocks of experimental planting, many of them far too large to be deemed to be experiments, occur here and there in the general plantations, which when they come to be milled will interfere seriously with the milling operations and entail unnecessary expense in the future.

We have already referred to the importance of an economic survey of the private plantations of New Zealand. Such a survey should have been a preliminary to afforestation operations. Had such been made it is inconceivable that some of the more striking mistakes we have pointed out could have occurred.

During the history of the Forestry Branch of the Lands Department three nurseries have been established and closed down because the localities where they were established were considered unsuitable. The most remarkable example is in the case of Kurow. Here, in 1905, 45 acres were selected which were described as having all the desirable advantages for an ideal nursery.* After about three years' work, and an expenditure of £3,070, some of which was not lost, as certain trees and plant were conveyed elsewhere, the nursery was closed down owing to the climate proving unsuitable. Such a case as this should never have occurred. Instead of erecting buildings and laying out a nursery on a large scale, a little experimental planting and seed-raising should

* Report of the Department of Lands, State Forests, 1905-6, p. 16.