

## REVIEWS

## EXOTIC FORESTS OF NEW ZEALAND

By F. W. FOSTER

An article in the April number of Irish Forestry by Mr. T. Clear raises various questions regarding the Forest Policy of Eire during the last 40 years, and suggests that all is not well with that enterprise. Most schemes which have been in progress for nearly half a century are in danger of failing to keep up to their early promises, and possibly a little shake up may do them a bit of good. But when Mr. Clear complains that this particular policy has been modified he does not bring forward any fact to prove it. His complaint that progress in developing the policy has been slow is another matter, and an article in a previous number of the Journal gave certain reasons to account for this during the early stages of the work. When, however, Mr. Clear advocates the annual planting programme being increased to 20,000 acres, and to land being acquired worth £10 per acre or so, one is tempted to question whether all the implications involved have been considered. The progress of the past has developed under the pressure of various economic conditions which apply to many other industries than timber production.

Many points Mr. Clear has brought to the front have also been considered and reviewed in a country some thousands of miles from Eire, but where a similar forest policy was inaugurated about the same time, namely New Zealand, and in which conclusions which do not exactly coincide with those of Mr. Clear have been reached. A paper written for the Empire Forestry Conference of 1947, by Mr. F. W. Foster, Inspector in charge of the Management Division of the New Zealand State Forest Service, was published almost simultaneously with that of Mr. Clear under the title of "Exotic Forests of New Zealand." But while Mr. Clear's paper amounts to a criticism of what has **not** been done, that of Mr. Foster is concerned with the actual work of the past in his country. It is proposed in this review to deal with the two papers in the one article, and focus attention on those features in which both countries have been running on parallel lines as regards acreage, objects in view, methods employed in planting, silvicultural treatment, and the general result of the policy pursued in the one case, and possible results of that advocated in the other.

The chief differences found in the conditions outlined are due to climate, species grown, and economic conditions of a temporary or permanent nature, but these do not greatly

affect the general principles nor the conclusions to be drawn from them.

The acreage involved in both countries is approximately the same, about 800,000 acres, and the objects in view are to supply the respective countries with softwood timber in sufficient quantities for economic purposes. Climatic conditions enable the annual yield per acre to be more than doubled in New Zealand and the population to be supported in little more than half the area of Eire. But this is aptly balanced by the much greater quantity of timber used in house construction in the former. If this factor is allowed for, the annual consumption per head is about double in the one country to that in the other, namely 10 against 20 cubic feet. The methods employed are much the same in both countries. Seed is sown in prepared nurseries and the seedlings planted out at two or three years old in pits or by notching. Thinning and pruning are recognised as necessary operations, and carried out as far as possible and in general there is little difference in the methods of raising timber crops. The class of timber produced is chiefly pine in New Zealand and pine and spruce in Eire, and the species in the former is almost entirely *Pinus insignis*, a tree which makes a phenomenal growth in that country.

The New Zealand programme of afforestation has passed through various stages, and fluctuated to an even greater extent than that of Eire. Starting under the auspices of the Land Department about 1900 it continued its career under rather uncertain forms of administration until 1923, when the present Forest Department was set up within a year or two of the Forestry Commission in Great Britain. But the existence of 2 to 3 million acres of land absolutely unutilized in the young Dominion afforded scope for planting on a scale which was impossible in the more thickly populated rural areas of Great Britain and Ireland. This fact was seized by New Zealand politicians as a splendid opening for large scale production of softwood timber, and was taken full advantage of within a few years of the Department being set up. According to Mr. Foster, about 40,000 acres were planted between 1900 and 1923, and, in spite of the above facts, he regards this as a rather fine achievement. According to Mr. Clear a similar result in Eire has been a dismal failure. After the Forest Department was set up in 1923 the rate of planting in New Zealand averaged about 30,000 acres between 1923 and 1936. From 1937 the annual rate was then reduced under a new policy to 2,500 acres, practically the same as in the initial stages of the work. Mr. Foster then goes on to consider the result of these planting fluctuations and summarizes them under 10 heads, the chief of which are : abnormal age-classes, faulty and inadequate

stocking, neglect of thinning and pruning operations, and a general falling behind in all cultural work, which has rendered the existing stock on the ground very much inferior in quality to what it might have been. Labour problems have had a great deal to do with this, and the writer emphasises the fact that had the labour available been employed in tending a smaller acreage, instead of on an inflated planting programme in the extravagant manner outlined, far better results would have been achieved with less expense.

This is all contrary to Mr. Clear's ideas. It is often taken for granted that the achievements in planting which are published and announced from time to time are the final words on the subject, rather than a preliminary note on one out of many stages of the work. Mr. Clear's article can be regarded as a praiseworthy endeavour to speed up operations in this country, but he overlooks the fact that the remedies he advocates may not always lead to the pace being accelerated in the easy manner suggested, but rather timber production in Eire must bear some relation to the whole of its mechanism. When he suggests planting land of a more fertile character it must not be forgotten that timber production in Eire must bear some relation to the ancient industry of agriculture, and the value of the latter to the country as a whole. Afforestation cannot be considered as a problem divorced from other industries.

To wind up this review it might be advisable to quote Mr. Foster's last paragraph in his report.

"If no other lesson is available, it is that orthodoxy in forestry is fundamental to success. Extensive forestry, which so characterised the New Zealand effort, has been a failure. What intensive forestry has been carried out has been a success. If it is possible to reduce the mistakes to a simple formula, it is that of maldistribution of age-class combined with lack of silvicultural tending. If the latter factor could be omitted from the formula, the former one would to some extent cancel out, for in many stands quality increment would accrue during financial overmaturity. Had small planting programmes been strictly adhered to, and all moneys surplus to this requirement been applied to every other feature of forestry work, including seed collection, nursery work, pruning, etc., there is little doubt that New Zealand would now possess an infinitely more valuable forest estate at a fraction of the cost."

The moral is obvious.

A.C.F.