

(2.) REPORT ON AFFORESTATION OPERATIONS IN THE SOUTH ISLAND.

(By D. J. BUCHANAN, Superintending Nurseryman for the South Island.)

During the year an area of 542½ acres was planted, thus increasing the total area of the South Island plantations to 12,395½ acres.

That the progress made does not compare favourably with that of recent years is directly attributable to the abnormal climatic conditions of the previous year, as the result of which nursery stock made exceptionally poor growth, and a great proportion of the trees were not sufficiently advanced for transfer to the plantations. Unfortunately the position disclosed at the end of the past season was very similar, adverse conditions having retarded the development of trees in the more advanced stage of growth to such an extent that the aggregate output of trees from the three nurseries will again be considerably below normal. A three-months drought commencing toward the latter end of summer was experienced in South Otago, and resulted in very heavy losses amongst transplanted trees in the Tapanui Nursery.

The estimated number of trees raised from seed during the year is 2,967,000, while the total raised since the establishment of the South Island nurseries is 44,906,000.

No European seeds were available for sowing, a small quantity of *Pinus Laricio*, which did not arrive until the end of January, having to be stored until next spring. The only imported seeds sown were comparatively small quantities each of Douglas fir and *Pinus ponderosa*, and on the whole the results are disappointing, the latter species having germinated very poorly. Nearly two millions of good *Pinus radiata* seedlings were raised, and this crop will in a great measure serve to cover the shortage in other species.

It is not improbable that a continued shortage of American and European tree-seeds would have a prejudicial effect upon afforestation in certain districts where extension work is now in progress. The substitution of *Pinus radiata* for *Pinus Laricio* and *Pinus ponderosa* in the severe climate of Central Otago would certainly be a very doubtful proposition, while in North Canterbury, where drying north-west winds are a feature of the late spring and early summer months, the transplanting of Monterey pine is usually accompanied by a much lighter percentage of failures than in the case of either of the above-mentioned species.

The total number of trees in the nurseries at the 31st March was 6,049,000, about one-quarter of which are sufficiently large for removal to the plantations during the coming winter.

TREES FOR FARMERS.

There was a marked decrease in the number of trees distributed to farmers and public bodies during the past year, the total number disposed of being 70,824, as against 226,890 for the previous year. Applications for trees were less numerous than usual, and a number of large orders for delivery in the spring had to be cancelled owing to the restricted railway services during that period. The demand was again chiefly for the faster-growing pines, the majority of settlers requiring a species which will quickly provide shelter, and with which a reasonable amount of success in transplanting may be safely anticipated. Few inquiries with respect to eucalypts were received, and the raising and preparation of the plants for distribution, entailing a considerable amount of labour, were actually carried on at a loss. At least two of the nurseries are situated in districts where the severe frosts of winter frequently cause wholesale failures in the eucalypt crop, and for the future it has been decided to restrict the raising of plants to a comparatively small number of the hardiest species, and to encourage the sowing of seeds by settlers who are desirous of establishing plantations.

A large demand for trees during the approaching winter is anticipated, and, as the stocks available for distribution are somewhat limited, it may not be possible to supply all applicants.

LABOUR.

During the greater part of the year labour has been fairly plentiful, a temporary shortage only being experienced in the autumn when harvesting operations were general. With few exceptions, all vacancies have been filled by discharged soldiers, as many as sixty being employed at one period. At Greenvale Plantation all work in connection with the planting and maintenance of trees has been carried out entirely by soldier workmen, but it must be admitted that, as regards the economical working of the station, this class of labour has so far proved rather unsatisfactory. Despite the efforts made to make living-conditions in the camp as congenial as possible, the majority of the men still continue to leave after a very brief period of employment, and although as a rule the vacancies have been promptly filled, it is obvious that the continual changing of hands must affect the progress of the work to an appreciable extent. The Greenvale camp, which provides accommodation for twenty-five workmen, has only on rare occasions been completely filled, and has in fact at times been almost empty, yet during the past year a total number of ninety men have been given employment at this station. This will serve to convey some idea of the difficulties experienced where the carrying-out of operations on any considerable scale is entirely dependent upon returned-soldier labour. It is satisfactory to note that several former employees have been repatriated during the year, and have returned to their old positions in the nurseries, where, during the war period, the shortage of experienced workmen has been most severely felt.

REVENUE.

The receipts for the year, of which details are given hereunder, amounted to £1,104 9s. 5d. The total compares somewhat unfavourably with that of the previous year, this being accounted for by the fact that during the past year there was no surplus grain to dispose of. The thinnings from the shelter-belts at Hammer Springs Plantation continue to meet with a ready sale, the demand being such that probably double the quantity of firewood could have been sold had it been available.