

For some years past the Mackenzie County Council have been operating upon a number of local Government plantation reserves, and, wishing to be relieved of the afforestation-work, and being hopeful of a more vigorous planting policy throughout the county, the Council intimated their desire for the Department to formulate a scheme and undertake the afforesting of those reserves which were considered suitable for the purpose. After inspection it was found that the block of 564 acres adjoining Lake Pukaki was the most convenient for working, and it is likely that a start will be made on this area at no distant date. Full data on the widely separated reserves has not yet been secured; but it is probable that through their isolation it will be expedient to uplift the reservation and devote the land to other purposes. Areas of private lands in Canterbury were examined, but no decision regarding their acquirement has yet been arrived at.

The importance of land-selection for forestry-work should not be underestimated. Even enthusiasts in our work are apt to deal too lightly on the question and advocate through the medium of public bodies and journals the afforesting of land from which success cannot rationally be expected. It is, indeed, a wiser policy to plant a less acreage annually on suitable country than prosecute the work with extreme vigour under unsuitable conditions. The advantage accruing from making still further provision for plantation-extension work in districts destitute of timber will be apparent, whilst little monetary loss should result from this act, as any areas so reserved could be temporarily rented in such a form as to attract prospective lessees.

#### TREE-RAISING WORK.

Contrary to expectations, much success has been achieved in the raising of seedlings, some 6,522,000 of which, as per schedule appended, are estimated as representing the results of the season's sowing. From 270 lb. of seed the excellent return of nearly three and a half million *Pinus Laricio* trees is recorded, whilst equally satisfactory results have accrued from the sowing of 230 lb. of *Pinus radiata* seed, from which 1,414,000 sturdy plants were the outcome. Perhaps the outstanding germinating failure was *Pinus Benthamiana*, although the *Pinus ponderosa* seed was also much below the average in quality, a fact that was demonstrated by testing prior to the general sowing. Each nursery is now well stocked with hardy varieties that experience shows are mostly suited for general afforestation purposes on the areas available, and, provided that sufficient funds are forthcoming, a great increased output from next year can be looked for. In consequence of the high death-rate which occurred with *Pinus radiata* during last season's transplantation-work, special treatment was given this variety, with extremely satisfactory results, and in no previous year have such well-grown pines been raised. The seedlings were lifted from seed-beds, classified, and lined out with as little delay in the operation as possible. Although an extremely hardy tree when established, much care is necessary in the handling of the Monterey-pine seedlings, and usually our efforts to make preparation during the winter period for the transplanting of the species by lifting and temporarily lining-in have been too frequently accompanied by premature heating, partial decay, or other results that subsequently prohibit their successful transfer to lines. A particularly attractive lot of about 100,000 *Pinus ponderosa* might also be specially commented upon. These trees possess characteristics hitherto not shown by others grown under the same name, and by their distinctly robust development would indicate their suitability for planting on the less favourable portions of our planting-areas. Some thousands of various species of eucalypts were lined out in a similar manner to pines, and after dying back threw out strong shoots from below the surface. Unfortunately the excessively dry weather during the months of greatest sap-activity absolutely prohibited the adoption of wrenching measures, and consequently the trees have almost outgrown the size suitable for convenient handling. However, they will all be utilized for special purposes this year. Since the initiation of afforestation-work in the South Island some 28,720,078 trees of between one and four years have been used in extending State plantations, whilst an additional 2,958,662 have benefited the domains, public institutions, and farmers.

#### PLANTATION-WORK AND GENERAL COMMENTS ON TREE-GROWTH.

The total expenditure allocated to the general maintenance of the established plantations and extension-work reached £6,766 4s. 3d., an amount slightly in advance of that expended in the same direction during the previous year. Some 764½ acres was afforested in addition to replanting areas over which climatic and other influences had so adversely affected the trees as to merit this treatment. During the twenty years' planting operations on 8,987½ acres in the South Island some £96,837 4s. 4d. has been expended, as detailed in the preceding summary. From the short reviews on the various stations by local officers in charge it will be seen that generally tree-growth has been at least equal to that recorded previously. Emphasis must again be made upon the larch occupying uncongenial situations generally. The young forests during the few years immediately after planting possess a most attractive and healthy appearance, and buoy one up with rosy expectations until the pole stage is reached, when the young stand, from a combination of causes unknown when planting is undertaken, contract mysterious forms of premature defoliation; and although the "leaders" even now continue to develop with almost youthful vigour the gradual decline of the European species is anticipated. As alluded to in the last report, no further planting of European larch is contemplated until the opinion above expressed is either discounted or borne out by later observations. Recently formed pine plantations are growing remarkably well, and with the general application of the increased spacing-distance much greater progress can in future be looked for.

#### EXTENSION OF GRAZING PROPOSITION ON FIRE-BREAKS.

Recognizing the possibilities of curtailing cultivation-work on fire-lines and making the breeding of sheep a remunerative proposition, the grazing scheme on plantations has been gradually extended with comparatively little outlay, and although perhaps the 430 departmental sheep are quite insuffi-