

being thus used in the operations. Much interest was shown in the experiment by local residents and school-children, who gave able assistance. Of the varieties planted *Pinus ponderosa* and *P. radiata* have been mostly successful. Anticipations were also borne out by the marram-grass growing freely, although in the more unprotected positions rabbits have evidently eaten the succulent shoots with avidity. With the development of the root-system, however, the grass sets should speedily get beyond the influence of the pest and form the desired pioneer wind-break for future tree-planting. Arrangements have been made to replant the failures in the enclosure with the varieties of tree that show greatest adaptability to the conditions, and the result will likely influence subsequent reclamation-work in the locality.

Galloway Plantation.—Exceptionally robust specimens of *Pinus ponderosa*, *P. Laricio*, and *P. radiata* were raised at Ranfurly and Tapanui Nurseries for the second trial in this small reserve; and, although ideal conditions during the planting period were experienced, the subsequent drought accounted for wholesale losses, and proof beyond a doubt has now been secured that it is impossible to create forest plantations generally on the dry hills in this district without the application of water. On the cool lee-side of the hill probably 30 per cent. of *Pinus radiata* are succeeding, so that it is reasonable to assume that a fair measure of success would be attained in afforesting the more humid and moisture-retaining valleys surrounding. It is not desirable at the present moment to dismantle the fence, as already the native grasses in the enclosure unmolested by the rabbits are making great progress, and another year's protection will undoubtedly, without artificial aid, convert the barren surface of eighteen months ago into useful pasture.

Tekapo Plantation.—In pursuance of the policy outlined in last year's report planting operations were commenced on the enclosed area near Lake Tekapo, Mackenzie country, where some 48,000 trees, consisting principally of the hardier pines (as outlined on the appended schedules), were used. A fair growing percentage have eventuated, but here also the dryness was not conducive to even normal issues. It was hoped to greatly expand the work in this locality immediately; but we are at present faced with the serious problem of how to secure the services of suitable men for the undertaking, and it is likely that extension-work will be deferred here until the following season, when a more settled condition of the labour-market is expected.

Omarama Plantation.—The creation of a forest in this district will be by no means an easy proposition, judging by the present appearance of the trial plantation established about eighteen months ago. Due allowance must be made, however, for the abnormally dry season. In this case also the Monterey and western yellow pines have stood the test better than other varieties dealt with. An interesting feature of the trial is the marked superiority of growth trees have shown that occupy positions amongst the tussocks over those planted on the surface destitute of vegetation. Once again poplars by their complete failure have shown that their propagation in exposed situations without attention is not an easy matter, and *Pinus Laricio* does not possess the abnormally hardy drought-resisting characteristics usually attributed to the species. About 2,000 trees will be planted out here during the coming early spring, and the outcome of this work, together with that of the previous season, should furnish interesting matter for a later report.

SOURCES OF REVENUE.

To simplify the acknowledgment of moneys received, occasioned by the expansion of business and initiation of the "tree-for-farmers" scheme, my appointment of Receiver was approved, and during the current year £1,429 19s. 9d. was officially received and placed to the credit of the Public Account. The amount was derived from the following sources: Sale of sheep, £902 14s.; trees, £250 4s. 5d.; timber, £125 1s.; wool, £152 0s. 4d. Thinning activities at each station have been temporarily suspended, although the sales of timber referred to above consisted entirely of firewood supplied to local residents at Hanmer Springs, where evidently a ready sale is effected for this commodity. At Dusky Hill Plantation a large proportion of the fencing-material required for the temporary fences at the newly started Greenvale Plantation was cut from the larch compartments, and not being impregnated with any antiseptic solution it will be interesting to note the durability of these posts.

GENERAL.

At the present moment it is not possible, with any degree of accuracy, to outline the coming year's proposals. On the nurseries fully 2,500,000 trees are available for distribution to associated plantations, and this number would afforest approximately 1,600 acres. An attempt will be made to grow 150 acres of oats and wheat on the unused portions of the departmental property. This scheme will be carried into effect for a small expenditure, and the outcome, besides providing fodder for the requirements of our own stock, should materially assist in swelling the season's grain-output.

Several official changes occurred during the year. Nurseryman-in-charge A. W. Roberts resigned from Ranfurly, and was succeeded by Nursery Foreman W. T. Morrison, in whose position Nurseryman A. S. Jenkins now acts. Plantation Foreman A. J. Boydell was transferred from Hanmer Springs to Balmoral to act in the same capacity there, whilst Assistant Forester Dunnet was appointed in charge of Greenvale Plantation. Plantation Foreman Screen, of Naseby, left with the Expeditionary Forces, and in his place Assistant Forester J. Graham is acting. With the above-mentioned semi-organization of the staff it will be evident that the general direction of work has been increasingly difficult; but I have to express my thanks for able and willing assistance rendered by members of the staff generally.

To the previous list of employees who have joined the Expeditionary Forces may be added J. Armstrong, J. Blythe, D. Hanrahan, A. Jacobs, C. Jones, J. T. Kenny, J. Lawlor, C. Lunam (killed), J. Morrison, T. O. Screen, J. Tregerthen, M. Young (wounded).

R. G. ROBINSON,

Superintending Nurseryman for the South Island.