

REPORT ON AFFORESTATION OPERATIONS IN THE SOUTH ISLAND.

(By R. G. ROBINSON, Superintending Nurseryman for South Island.)

Climatic conditions generally were only moderately favourable for afforestation operations. Excessive rainfall was experienced at the Canterbury stations, whilst in Otago the other extreme necessitated the application of special measures to overcome wholesale losses in seed-germination. An incident worthy of special notice occurred at Dusky Hill Plantation on the 26th November. During the prevalence of a violent thunderstorm a high, rocky, pine-clad point of the plantation was struck by lightning. A conflagration quickly followed, but by prompt, well-directed energy, the employment of serviceable fire-fighting appliances from the depots in the vicinity, and effective fire-breaks the outbreak was quickly subdued before much damage had resulted. Frosts have neither been of frequent occurrence nor of abnormal severity, and the winter period was characterized by unusual mildness. Reference to the effects of high winds is made elsewhere in this report.

EMPLOYMENT OF RETURNED SOLDIERS.

The depression in the labour-market necessitated a revision in our projected planting scheme, and; indeed, at times the prospects of being able to carry through even a reasonable amount of work were anything but bright. The actual propagation of trees on the nurseries causes little concern regarding labour, as this work, being of a light nature, does not demand the stamina required for the more laborious phases of preparation of pits, scrub-cutting, planting, &c., on perhaps abrupt hillsides, where much of the Department's work is now being undertaken. Quite a number of discharged soldiers have from time to time supplemented our plantation gangs, but, although several are still in the service and doing excellent work, the large majority, after a stay of a short duration, find the conditions uncongenial and leave. It is reasonable to infer, however, that on peace being declared many returning men will avail themselves of such work as is at present offered by the Forestry Branch, and with this object in view the continued raising of seedlings on at least the present basis is commendable. There is no doubt that in not being able to provide work during wet weather the Department is greatly handicapped, and perhaps the loss of time thereby incurred by workmen is the chief contributing factor to early discontent. As our South Island plantations are scarcely far enough advanced for milling operations, we are unable to dovetail the tree-planting work with that of timber-conversion. Every reasonable effort is directed upon making the camps comfortable, but a movement towards still further improvement in this respect is now being aimed at. At Greendale Plantation, where employees now "bach," several buildings will be drawn together and converted into a kitchen and dining-room, where meals will be provided at actual cost price. Although this innovation may not meet with the anticipated success, it will surely demonstrate the possibilities of overcoming what now appears to be one of the chief objections raised by men now offering.

In the Tapanui district the services of the more robust schoolboys on Saturdays during the spring and summer periods were obtained for the lighter forms of nursery-work, and the result of the idea so fully justified its adoption that precisely the same means will again be employed when hoeing and weeding operations constitute the principal work on hand.

SOURCES OF REVENUE.

Revenue amounting to £1,217 14s. 6d. was received from various sources. Amounts totalling £118 9s. 4d. are still outstanding, but will be included in the next year's transactions. Details of revenue: Sheep, £659 9s. 5d.; wool, £110 6s. 3d.; trees, £390 16s. 10d.; firewood and fencing-posts, £44 2s.; rental of cottage, £13: total, £1,217 14s. 6d.

The question of supplying fuel and fencing-material to the public generally from our older-established plantations is being much discussed of late; but although it has been found beneficial to conduct partial thinning operations on marginal belts of pines, which timber when converted into suitable lengths for convenient cartage is disposed of at a remunerative figure, it would be wise to avoid the danger of too hasty cutting generally in response to popular clamourings. Present indications would point to the reaping of handsome returns from our South Island plantations when trees have attained the desired size for conversion into mining-props, fencing-material, fuel, &c.

Spare arable land was utilized in grain-growing, and after catering for the Department's requirements in this direction some £600 worth of oats and wheat now remain in stock, and will be disposed of when a favourable opportunity occurs.

BRIEF ALLUSIONS TO TREE-RAISING WORK.

In raising an estimated number of 3,754,700 seedlings in the nurseries, as detailed in the schedules, the necessary provision for the continuance of our present annual output was made. The greatest success was obtained from the sowing of 200 lb. of *Pinus Laricio* seed, which produced slightly over a million small yet sturdy trees. It is fortunate that we are fairly well stocked with this species, as only a very limited quantity of the Corsican-pine seed is procurable this year from the European market. Through the courtesy of Mr. T. W. Adams, of Greendale, cones of *Pinus Laricio* and *P. ponderosa* will be collected from his Greendale plantations by the Department's representatives, and on extraction seeds will be distributed to the various nurseries for spring sowing.

Special measures were adopted towards the increased propagation of *Pinus radiata*, and in securing some 944,000 strong seedlings of this species the object was certainly accomplished. An interesting experiment was undertaken at Tapanui in sowing *Pinus radiata* seed in drills 6 in. apart and utilizing the ordinary 6 ft. frames for covering the twelve lines sown. A large proportion of the seedlings have developed into abnormally fine specimens of sufficient sturdiness for permanent planting; and, indeed, so gratifying are the results that the idea will be adopted extensively in future operations. Special attention might also be directed to the unusually