

same remuneration. The healthy forestry-work certainly offers a somewhat wide field for the profitable employment of those returning from the war, although perhaps it would be unreasonable to expect a similar return of work from these men as from those who are hardened to the conditions. It might, then, be advantageous to form gangs solely of returned soldiers, and by introducing contract work each man would be able to work according to his inclinations or abilities, and receive proportional remuneration for same.

The South Island tree-planting work was necessarily curtailed to some extent simply because the required number of workers were not available. Every effort was made to secure suitable men without interfering with those engaged in farming pursuits. Then, again, in most country districts special inducements are offered by farmers to experienced workers, whilst the abnormal prices of rabbits lured others towards the trapping industry.

An idea originating from the acute state of affairs, and which is worthy of continuation, was carried out at Tapanui Nursery. On Saturdays during fine weather, when hand weeding and hoeing works were in a very backward state, about a dozen strong schoolboys were engaged at 5s. each daily, and the present satisfactory state of the nursery may well be attributed in some measure to the attentive manner in which the lads performed their duties. Present indications point to the necessity of having to revise the coming season's planting scheme, which will in all probability be based upon a reduced output of trees from the propagating nurseries.

#### DEVELOPMENT OF GRAZING PROPOSITION.

If any doubt has hitherto existed regarding the wisdom of introducing sheep on the plantations it should now be dispelled. A certain amount of risk attended the early stages of the venture, but we are now in possession of information that will enable the grazing proposition to be carried out on planted reserves with results greatly surpassing our most sanguine expectations. Knowledge has still to be acquired regarding the carrying-capacity of the various reserves, and instances have already occurred when the sheep, through slight overstockings, have temporarily disfigured such road-line plants as *Cotoneaster*, broadleaf, *Pittosporum*, and other native plants. Apart from these comparatively trivial defacings, no damage has resulted from the presence of the sheep, whilst horse-work has been reduced by about 30 per cent., and the fire-lines are in a more effective state than at any previous time. From a financial standpoint, too, the outcome is equally satisfactory, as the following table shows. Arrangements have been made to run about six hundred breeding-ewes this season on the Tapanui district plantations, and the conditions for a special grazing license will likely be drafted to meet the requirements at other stations in the meantime.

#### Statement of Stock Transactions.

Dr.	£	s.	d.	Cr.	£	s.	d.
Estimated value of stock on 31st March, 1916	444	8	0	Sales of sheep and lambs	..	..	902 14 0
Cost of sheep purchased during year	..	689	6 0	Sales of wool	..	..	152 0 4
Management expenses, dipping, shearing, &c.	15	16	10	Stock on hand at 31st March, 1917 (valuation)	689	6	0
Commission on sales	..	36	8 7				
Balance profit on year's transactions	..	558	0 11				
	<u>£1,744</u>	<u>0</u>	<u>4</u>				<u>£1,744 0 4</u>

#### TREE-RAISING WORK.

In raising an estimated number of 5,110,230 seedlings in the three nurseries, as outlined in the schedules appended to detailed reports, good work has been accomplished. Of this total, however, Ranfurly Nursery has contributed only 343,150, and the sowing there must be regarded as a partial failure. It has been decided that during the next transplantation period this number will be supplemented by at least half a million from the Tapanui and Hanmer Springs Nurseries, so that the future output of trees in Central Otago will not be seriously curtailed. Unquestionably the raising of 2,698,000 seedlings of *Pinus Laricio* was the most interesting sowing undertaken, and the young plants are evidently of fine type and unusually robust. In accordance with the Department's intention to considerably increase the output of *Pinus radiata* a more extensive sowing of the species was conducted, and considerably over a million well-grown Monterey-pine seedlings will be available for transferring into lines during spring-time. Some 365,000 *Pinus ponderosa* eventuated from operating with 92 lb. of seed. The young trees, however, do not possess the attractive appearance of those raised three years ago, and to which type special reference was made in last report. In order to make provision for planting out several small areas eminently adapted for the development of *Cupressus macrocarpa*, efforts were directed upon raising a sufficient number of these trees for the purpose. An excellent crop of 113,600 plants was the outcome, and we shall thus be able to also supply the requirements of farmers, who evidently rely a good deal upon this tree for shelter purposes in the Otago and Southland Provinces. Interesting sowings of various eucalypts were attended with much success, and the thanks of the Department are due to Dr. Henry, Rev. J. H. Simmonds, and Messrs. T. W. Adams, and O. Bradley for their contributions of seeds for experimental purposes. The Superintending Nurseryman, Rotorua, also supplied a useful collection. After repeated trials in the best means of preparing seedling gums for permanent planting in the South, the "pricking off" into boxes method must be given precedence. The seed may be sown during October in beds, put out into boxes, each containing a hundred plants, in January, and about six weeks later conveyed and dealt with on the prepared plantation area. Absolute success has been achieved this season by adopting this method, which, however, is somewhat more costly than those tried unsuccessfully before. The young trees, some of each species shown on the accompanying schedule, have still to weather the winter, and the test will clearly demonstrate the possibilities of hillside planting with these hardwoods in South Otago.