

WHAKAREWAREWA PLANTATION.

The measure of success obtained during an average year could not be expected here during the past year, but it is pleasing to record that the result of the season's operations is far from being a failure.

With the exception of about 21,000 *Eucalypti*, all the planting on new area was done with *Pinus radiata*. This species when sent out from the nursery is generally fast grown and rather tender, and consequently cannot be planted out on recently cleared country until the severe winter frosts are over. Planting thus commenced after the drought had set in, the work being very slow on account of the difficulty of firming the soil and the necessity of careful handling in order to keep the plants in a moist condition.

Dry weather continued throughout the planting, and finally the pitting and planting of a further area which it was proposed to fill up had to be abandoned. The loss through drought will probably amount to about 20 per cent., and, although for a time the majority of the plants had a very sickly appearance, they have now quite recovered, and during the past three months have made excellent growth.

The area on which the bulk of the planting was done is high country with steep rough faces, on which the natural growth was exceptionally heavy. The average cost per acre of preparing and planting the ground was consequently a good deal more than the average for the same work during the previous season, when the land was fairly easy to work. For the distribution of trees a sledge-track had to be formed through the block, the nature of the country making this also a somewhat expensive undertaking.

The *Eucalypti* planted on new area were confined to three species—viz., *E. Macarthuri*, *E. viminalis*, and *E. gonicalyx*. Of the three, *E. Macarthuri* has shown the best results, and although there are a considerable number of failures many of the plants have made splendid growth, and this species promises to be a suitable one for more extensive planting. More failures are to be found amongst *E. viminalis*, and *E. gonicalyx* has been practically a complete failure. The aspect of the area planted was most suitable, and the plants had the advantage of being protected by a growth of young bracken.

Some 3,000 *Eucalypti*, comprising seven species, were also planted for experimental purposes, but were subjected to several frosts immediately after planting, which, together with the dry weather, caused the almost complete failure of the lot. Of the few trees surviving, the greater percentages are of *E. Macarthuri*, *E. regnans*, and *E. Muelleriana*. Of those planted to replace failures the best results have been obtained with *E. Sieberiana*.

On the oldest block of larch an area of slightly over 14 acres was underplanted, Spanish chestnut sown *in situ* being chiefly used for the purpose. But for the depredations of quail, which pulled up quite half of the seed as the sprouts broke through the surface, the crop would probably have been an excellent one.

Eleven other species of more or less shade-enduring trees were also tried, and in almost all cases remarkably few deaths have occurred, although the growth made by several species cannot be regarded as satisfactory. Those making the best growth were sycamore, Weymouth pine, *Thuja occidentalis*, *Eucalyptus globulus*, and *Cryptomeria japonica*. A number of years, however, must elapse before the suitability of any particular species for this class of work can be finally determined.

Although the growth made by the older trees has not, on the whole, been so vigorous as usual the effects of the drought have not been particularly noticeable excepting on the flats, where the larch and pines have a somewhat unhealthy appearance. On some of the low land *Pinus Laricio*, planted in 1907, was badly affected by early frosts, and the drought in the spring being against recovery many of them have since died, and others are in a very bad state.

In general maintenance-work the sum of £1,712 6s. 6d. was spent, the chief items being clearing of growth amongst trees, maintenance of fire-breaks, planting blanks, and underscrubbing and thinning larch. A total area of 150 acres of larch was thinned, 58 acres being part of the oldest block, and the other 92 acres part of a block planted in 1907. The cost per acre for the former area was £2 14s., and for the latter £1 16s. 9d. In addition, the older block had to be underscrubbed, which added an extra £2 per acre to the cost of the work. As there is at present no market for larch thinnings, and small likelihood of any in future, it is advisable that all the younger blocks be thinned as soon as possible, in order to avoid extra expenditure for which there is little probability of receiving any adequate return.

Trees to the number of 1,199,800 were received from Rotorua Nursery during the season. Of this number, 1,071,950 were planted on new area, amounting to 586 acres; 107,500 were used to replace failures; and the remainder (20,350) were used for underplanting a portion of the oldest block of larch. The greater part of the planting was done by free labour, the prisoners being responsible for 340,000 trees only, which are planted on new area. The total planted area now amounts to 6,808 acres, containing 15,017,546 trees.

An average daily number of 27.32 men were employed. The average costs of the various works undertaken were as follows: Clearing for tree-planting, £1 11s. 8d. per acre; pitting, 7s. 3d. per thousand; planting new area, 9s. 6d. per thousand; underplanting, £1 0s. 6d. per thousand; planting blanks, £1 8s. 1d. per thousand. The formation of 151 chains of sledge-track cost, on an average, 16s. 6d. per chain; and 127 chains of fencing were erected at a cost of 7s. 6d. per chain, including cartage of material and clearing of line.

Prison Labour.—The strength of the camp has been fairly well maintained throughout the year, the daily average number of men employed being 15.56, as against 11.66 for the previous year.

The work performed has consisted of clearing new area, planting, road-formation, and general maintenance, of a total value of £1,225 16s. 7d., the satisfactory manner in which it has been carried out being in a great measure due to able assistance rendered by the Prison Department officers. The clearing is now well in hand of a new area of approximately 500 acres, the pitting and planting of which