

WAIOTAPU PLANTATION.

(Approximate area, 6,700 acres; approximate altitude, 1,200 ft.)

The rainfall for the year amounted to 53·02 in., falling on 117 days; the heaviest monthly fall being recorded in April, with 8·06 in.

The lowest shade temperature was 14° Fahr. or 18° frost on the 3rd August, and the highest shade temperature was 92° Fahr. on the 16th December and the 11th January.

The employment of prison labour continues to give great satisfaction, and much credit is due to the warders for the live interest taken by them in the work, and to the Gaoler for his tactful assistance in causing the work to proceed without allowing the interests of the two Departments to clash.

An average daily number of 38·64 prisoners performed work to the value of £3,878 7s. 6d., or an average value of £100 7s. 5d. per man for the year.

Details of work performed are as follows: Planting 2,221,100 trees, at 7s. 6d. per thousand, £832 18s. 3d.; planting 380,125 trees without pits, at 12s. 6d. per thousand, £237 11s. 7d.; preparing 1,682,900 pits, at 10s. per thousand, £841 9s.; clearing for tree-planting 945 acres, at £1 per acre, £945; clearing fence-line, laying posts on line, and erecting fence—4 miles 6½ chains, £120 17s. 6d.; forming road to new camp, 122 chains, £162 8s. 6d. Shifting prison camp: Grading camp-site and excavating for wash-house, £40 10s.; water-supply, £31 9s.; building, painting, and bricklaying, £53; forming new garden, £22 19s. 6d. Carting trees, £48; general maintenance, £542 4s. 2d. Total value of work, £3,878 7s. 6d.

Tree-planting was commenced on the 27th April, and completed on the 17th September, and during that period trees to the number of 2,859,910 were planted. Of this number 268,680 were used for replacing failures in former plantings, 117,930 being larch used to replace deaths in the area planted with eucalypti some years ago. The area planted with trees during the year amounted to 952 acres, and the plantation now contains 6,932,934 trees, covering an area of 2,728½ acres.

The older trees continue to do well. Oregon pine which were badly frosted a few years ago appear to have recovered, and are making good progress owing to the absence of summer frosts this year and to the shelter now afforded by the nurse-trees, *Pinus Laricio*. The same remarks apply to the Californian redwood, which are now being well protected by the larch nurses planted with them.

On the whole, the results obtained amongst the trees this year are satisfactory, but owing to the exceedingly dry weather which prevailed during the months of January and February the death-rate is somewhat heavier than it has been for the last few years. The greatest losses appear amongst the *Pinus Laricio*, which, under the best conditions, does not as a rule transplant well. This species is generally and correctly recognised as a good drought-resister owing to the strong spreading habit of its root-system, but in the young state our experience is that it does not readily produce secondary roots and root-hairs, and consequently takes a considerable time to recuperate after being transplanted.

Details of trees planted may be seen by referring to Schedule 4 attached to the report on Rotorua Nursery.

The work of pruning through the older portion of the plantation has been considerable during the past year, and of course this work is one that is always increasing and demands prompt and careful attention. It has been found that with a little careful training many of the best-conducted prisoners soon become expert at pruning, and really good work has been performed by them.

The upkeep of the roads and fire-breaks has as usual entailed a good deal of work, and it has been necessary to keep four horses constantly employed during the summer ploughing and cultivating them. To expedite this work two horses were purchased, also a set of disc harrows and a double-furrow plough.

Extension of the plantation-work on the Maungakaramaea reserve has progressed well during the year. Seven miles of post-and-wire fencing was erected, with gates where necessary. A road 122 chains long was formed leading to the site to which the prison camp is to be shifted, and the camp-site itself graded in readiness for receiving the huts. A start was made on some of the buildings, also the water-supply, and altogether the preparations are well in hand for shifting camp early in the year.

Tree-planting operations for the coming season will be confined to an area of land situated within a radius of 1½ miles from the new prison-site.

Land has been cleared and preparations are in hand for planting 2½ million trees on this block. Much of the country is very steep and carried a dense growth of fern, and clearing has been rather heavy work. The land, however, is fairly good, and it is proposed to plant it with larch and Californian redwood, as the latter tree prefers good soil and seems to do better on hill-slopes than on the lower-lying flats, which will be reserved for several species of pines.

When the prison camp is shifted it will be necessary to place an officer in charge at the old site in order to suppress fires if they occur, and also to supervise pruning, the replacing of failures, and the planting by free labour at the far end of the block.

Any prisoner wishing to make a fresh start in life when discharged will be offered employment at this place, so that there will probably be no difficulty in getting plenty of labour. Three ex-prisoners have already been given employment, with encouraging results. They understand the work and the requirements of the Department thoroughly, and so far have given no trouble.

Details of expenditure are appended.