

KAINGAROA PLAINS EXPERIMENTAL PLANTATIONS, NEAR WAIOTAPU.

(Total area, 25 acres; approximate altitude, 2,000 ft.)

These four experimental areas are now being worked in conjunction with the Waiotapu Plantation, such work as pruning and attending to fire-breaks being performed by the prisoners.

R. MACRAE, Assistant Forester.

H. A. GOUDIE, Nurseryman in Charge.

WAIOTAPU PLANTATION.

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

The rainfall for the past year amounted to 42.06 in., falling on 93 days. The maximum temperature recorded during the year was 86° Fahr., in December and March; and the minimum, 17° Fahr., or 15° of frost, was registered in August.

Prison Labour.—The prison camp was shifted to a new site on the Maungakakamea Block about the end of April, 1908, and on this block the main portion of the work by prisoners was performed. The average daily number of prisoners employed during the year was 32.83, and the value of work done was £3,496 19s. 2d., or an average of £106 10s. 4d. per man. The work of shifting the prison camp was done almost entirely by prison labour. The new buildings erected comprise a store-room, a five-roomed building with a kitchen, officers' mess-room, scullery, bath and coal house, a bakehouse in which a portable oven is fitted, and a laundry and a lavatory. The stable was removed from the old site and re-erected with the addition of six stalls, a harness room, a carpenter's shop, and a large lean-to for housing the implements and vehicles. The smithy was also removed, and when re-erected a lean-to was built for storing tools. An efficient water-supply is obtained by lifting the water from a stream near the camp with a hydraulic ram to a concrete cistern on a near hill, from which the supply gravitates to the kitchen and where else it is required. From this camp the land will be planted in wedge-shaped blocks, and at the present rate of planting the camp will not need to be again shifted for about six years.

Tree-planting was commenced on the 12th April, and finished about the end of September, being delayed owing to extra work involved in shifting the camp. The prisoners planted 2,097,725 trees on a new area, 12,500 to replace failures in former years' planting, and 348 ornamental shrubs and plants about the camp site. Of the trees planted, larch, *Pinus ponderosa*, *Pinus Benhamiana*, *Pinus Austriaca*, *Pinus Strobus*, and birch have, as usual, succeeded satisfactorily, having made good growth, while the death-rate is very low. *Pinus Laricio* encountered severe frosts shortly after being planted, and the death-rate from this cause amounted to about 10 per cent.

Redwood was planted amongst the larch every 16 ft., and where sheltered have done best. Very little growth was made, as the majority of the trees were nipped back by the frost, but have since broken away from the bottom of the stem. As the larch fill out and afford more shelter the redwood will probably do better.

For next season's planting an area of about 800 acres has been cleared, and pits dug at 4 ft. apart. This land has been roaded and fire-breaks laid out. The road was also continued through an adjoining pastoral run, and connected with the Waimungu and Waiotapu Road. By carting the trees in by this road a good deal of time will be saved, as the road *via* Waiotapu is about four miles longer.

An area of 50 acres was ploughed and sown down in grass and clovers for use as a horse-paddock. A strip of land along the banks of a creek containing rough feed was enclosed for the horses, and used until the new paddock was fit to use. The want of good grass was badly felt, as it was about twelve months after shifting the camp before the new paddock was available. In this connection it seems advisable that the site for the future camp should be selected some years ahead, and an area sown down with grass and planted with a belt of shelter-trees.

Free Labour.—At the first prison-camp site a foreman was stationed with a gang of free men, who attended to such matters as replacing blanks in former planting and the maintenance of the plantation generally. During last winter this gang planted 64,700 trees on a new area, and 235,300 trees where deaths had occurred amongst trees previously planted. During the summer months most of the plantation was gone over and attended to by way of pruning, repairing roads, and attending to fire-breaks and fences. The back end of this block, which still remains unplanted, will be gradually dealt with by free labour, and preparations are now being made to plant half a million trees.

Fencing.—The Maungakakamea Block has now been enclosed with a post-and-wire fence, all but about a mile stretch, which will be completed shortly.

By free and prison labour 2,162,425 trees were planted on a new area of 794½ acres, and the total number of trees now growing at this plantation is 9,095,359, occupying an area of 3,523 acres.