

collecting specimens of such will also record the results of their investigations. Similarly data on such questions as the rate of growth—both height and diameter increment—mixture of species, and tending of plantations will be dealt with. Other aspects of the work will in time develop, but from this small beginning it is hoped that in time the records will contain much information that will be serviceable in preparing future working-plans.

THE VALUATION OF PLANTATIONS.

Owing to absence of data relating to the growth of exotic trees in New Zealand it is a difficult matter to place either a present or a prospective value upon a plantation. Apart from the cost of forming a plantation we have as yet no other method of arriving at its value. It is true that throughout this country there are many fine specimens of exotic trees from which the rate of both height and diameter growth could be ascertained, but these specimens are usually to be found growing in an open position and under entirely different conditions to that of trees destined to produce a supply of marketable timber, and hence are valueless for our purpose. On small areas of the plantations in this district the trees are now almost large enough to commence collecting data relative to their rate of growth, and it is hoped that in a few years sufficient information will be accumulated to place this branch of the work on a good footing.

PRISON LABOUR.

The employment of prisoners at the tree-planting camps continues to be satisfactory. During the year an average of 11·16 men were employed at Whakarewarewa Plantation, and 17·04 at Waiotapu Plantation, making a total of 28·20 men, which is considerably below last year's average of 33·89 men. The value of work performed by prisoners is as follows:—

| Station. | Value of Work performed. | Average Daily Number employed, 1910-11. | Average Daily Number employed, 1911-12. | Average Daily Number employed since Camp started. | Average Value of each Prisoner's Work, 1911-12. |
|-----------------------------|--------------------------|---|---|---|---|
| | £ s. d. | | | | £ s. d. |
| Whakarewarewa Plantation .. | 934 19 9 | 10·44 | 11·16 | 12·17 | 83 15 7 |
| Waiotapu Plantation.. | 1,750 5 0 | 23·45 | 17·04 | 29·29 | 102 14 3 |
| | | 33·89 | 28·20 | 41·46 | |

Details of the foregoing values will be found attached to the plantation reports.

At Waiotapu the average daily number of prisoners employed from the opening of the camp to the 31st March, 1911, was 30·40, but this average has been reduced this year to 29·29, owing to a shortage of prisoners suitable for sending to the tree-planting camps. This shortage necessitated considerable alterations being made in the tree-planting scheme. Comparing this year's with last year's figures a shortage of six men appears, but this does not exactly express the position, because it was during the planting season that the difficulty in getting a sufficient number of men occurred. Owing to the scarcity of free labour at Waiotapu, trees which were intended for that station had to be planted at Whakarewarewa, where more free labour is available. I have again to thank the Prisons Department's officers for their co-operation in the work, the success of which is in a large measure due to their efforts.

NEW RESERVE.

Adjoining the plantation areas at Waiotapu on the eastern side an area of 33,000 acres (approximately) has been reserved for afforestation purposes. The land on this new reserve is in many respects similar to that which has been planted at Waiotapu, but, owing to the greater altitude of the new portion, the climatic conditions are somewhat more trying. The vast plateau known as the Kaingaroa Plains, of which the new afforestation reserve forms a part, extends from Taupo in the south to Tarawera in the north, with an altitude of about 2,000 ft. above sea-level, and an area of, roughly, 200,000 acres. The plant-life with which the greater part of the plains is at present covered consists chiefly of tussock, dwarfed scrub, danthonia-grass, and dandelion, the latter two being the chief food of the many wild horses which find a very precarious existence in this bleak district. To the eye the plains appear to have a level unbroken surface, and the deep gullies which here and there exist are not seen unless deviations are made from the public roads. For afforestation purposes the new reserve is well sited. The meagre growth on three-fourths of the area will make it possible to plant the trees with a comparatively small expenditure on clearing, and once the trees are planted very little expense will be incurred in upkeep until thinning becomes necessary. The remainder of the area, comprising the gullies and the eastern end of the block, which falls gradually towards Fort Galatea, carries a moderately heavy growth of bracken, and on this portion the work will be somewhat more expensive, although not more so than land already planted at Waiotapu.

When a meteorological station is started here it will probably be found that the rainfall on the plains will be much the same as at Waiotapu, and the average temperature lower than at that place. Strong cold winds are frequent, the prevailing ones being north-east and south-west, and the difference between the day and night temperatures is usually very marked. Very warm days are not uncommon during the summer months, but the night temperatures are almost invariably low—probably always below 40° Fahr.