

REPORT ON THE AFFORESTATION OPERATIONS IN THE NORTH ISLAND, 1913-14.

[By the Superintending Nurseryman, North Island, Rotorua.]

The year under review is the second one in succession in which extraordinary dry weather has been experienced, and as a consequence the effects of the drought upon plant-life are more serious than those recorded last year. The ill effects of the drought are confined chiefly to the nursery, where considerable losses have occurred in the seed-beds of two-year-old larch and this year's crop of *Pinus ponderosa*. Although the plantations did not apparently suffer to any appreciable extent, yet there is evidence to show that the dry weather, which started in January, 1913, and prevailed for about three months, was not compensated for by the rain which fell during the succeeding winter and spring months. During the months of January, February, and March of 1914 the ground in the plantations, except where recently cultivated, contained practically no moisture for 18 in. below the surface. A small area of land at Whakarewarewa, which has hitherto been too swampy to plant, dried up completely, and it was successfully cleared and burned. At Kaingaroa a stream fed by a number of small springs, which has hitherto been regarded as a reliable source of supply of water for the prison camp, failed entirely about the middle of February last. The deaths amongst the older trees, although not extensive, provide further evidence as to the dry condition of the soil. Larch which were planted in 1901 and *Pinus radiata* planted in 1904 died out in small groups here and there throughout the respective blocks; these were well-established trees, and might have been regarded as perfectly immune from the effects of the dry weather.

During the year 3,447,380 trees were planted on new area of 1,288 acres, thus making a total of 14,984 acres planted to date, carrying approximately 34,818,185 trees. Notwithstanding the dry weather experienced, the trees planted have thriven remarkably well, and in this respect the past year may be regarded as one of the most successful experienced at the North Island stations. The results clearly demonstrate the value of preparing the pits well ahead of the planting, as the loose ground is capable of absorbing more moisture during wet weather, and retaining that moisture longer, than is the hard consolidated land. The use of the puddle-tub, too, is of inestimable value, for no matter how carefully the trees are handled when being sent from the nursery to the plantations they become dry to a more or less extent. If the roots are dipped in puddle the evil results of drying are reduced to a minimum.

PRISON LABOUR.

The tabulated information which is given hereunder in respect to this class of labour displays the results in an abbreviated form. So far as the number of prisoners who have been made available for tree-planting work is concerned, it will be noticed that no improvement has taken place during the year. The value of such labour for this class of work has repeatedly been set out in these annual reports; but unless both prison camps can be kept reasonably full of prisoners it would be infinitely better to completely close one of them, so as to enable the other one to be kept full. The spasmodic nature of this labour makes the progress of the work very difficult, because it is not always possible to adhere to the working-plans for the year. In the event of there being insufficient prisoners to complete the tree-planting work in proper season the difficulty cannot be solved by employing free labour, because of the danger of trading occurring between the free men and the prisoners. This difficulty has arisen on more than one occasion, and, as a consequence, arrangements have had to be made late in the season to prepare pits and plant the trees by free labour on another part of the plantation. Forestry work does not permit of schemes being made in such a hurried manner, but requires that the work should be anticipated at least three years ahead. Seed has to be procured and trees raised which will be suitable for the various areas which it is intended to plant, and it is highly desirable that these areas should be cleared and pitted well ahead of the actual tree-planting. If the prison labour cannot be regulated to meet these requirements, then its value for afforestation purposes is very much reduced. It is earnestly hoped that an effort will be made at an early date to alter the present conditions so as to make them more acceptable to this Department. At Kaingaroa there is accommodation for fifty-six prisoners, and the Green Lake Prison can accommodate thirty-three. Kaingaroa camp could easily accommodate all the prisoners which both camps generally contain, and if there is a difficulty in getting suitable men it would be preferable to close the Green Lake camp and concentrate the available prisoners at Kaingaroa.

| Year.          | Waiotapu Plantation. |                      |                  | Whakarewarewa Plantation. |                      |                  |
|----------------|----------------------|----------------------|------------------|---------------------------|----------------------|------------------|
|                | Average employed.    | Total Value of Work. | Average per Man. | Average employed.         | Total Value of Work. | Average per Man. |
|                |                      | £ s. d.              | £ s. d.          |                           | £ s. d.              | £ s. d.          |
| 1900-1 .. ..   | *20-00               | 170 0 0              | 8 10 0           | ..                        | ..                   | ..               |
| 1901-2 .. ..   | 18-00                | 437 18 6             | 24 6 7           | ..                        | ..                   | ..               |
| 1902-3 .. ..   | 22-59                | 904 12 11            | 40 0 11          | ..                        | ..                   | ..               |
| 1903-4 .. ..   | 30-00                | 902 3 0              | 30 1 5           | ..                        | ..                   | ..               |
| 1904-5 .. ..   | 43-00                | 1,562 0 0            | 36 6 0           | †11-00                    | 332 13 7             | 30 4 10          |
| 1905-6 .. ..   | 42-56                | 2,440 8 5            | 57 6 9           | 14-19                     | 771 8 4              | 54 7 3           |
| 1906-7 .. ..   | 35-62                | 2,978 0 0            | 83 12 1          | 11-50                     | 762 11 0             | 66 6 2           |
| 1907-8 .. ..   | 38-64                | 3,878 7 6            | 100 7 5          | 15-05                     | 1,103 5 2            | 73 6 1           |
| 1908-9 .. ..   | 32-83                | 3,496 19 2           | 106 10 4         | 13-16                     | 971 10 0             | 73 16 5          |
| 1909-10 .. ..  | 27-81                | 3,164 19 2           | 113 16 0         | 10-89                     | 789 7 6              | 72 10 10         |
| 1910-11 .. ..  | 23-45                | 2,390 7 1            | 101 18 7         | 10-44                     | 957 0 3              | 91 13 4          |
| 1911-12 .. ..  | 17-04                | 1,750 5 0            | 102 14 3         | 11-16                     | 934 19 9             | 83 15 7          |
| 1912-13 .. ..  | 15-20                | 1,198 16 9           | 78 17 5          | 9-51                      | 931 3 2              | 97 18 3          |
| 1913-14 .. ..  | 12-36                | 1,113 5 0            | 90 1 4           | 11-66                     | 1,019 17 3           | 87 9 4           |
| Totals .. ..   | ..                   | 26,388 2 6           | ..               | ..                        | 8,573 16 0           | ..               |
| Averages .. .. | †28-98               | ..                   | 69 12 3          | §12-16                    | ..                   | 72 6 4           |

\* One month's work.      † Nine months' work.      ‡ 13-08 years.      § 9-75 years.