

APPENDIX No. 6.—FORESTRY.

REPORT BY HENRY J. MATTHEWS, CHIEF FORESTER.

DURING the year 1,669,471 forest and ornamental trees and shrubs have been added to the stock, which now totals 4,387,660. In addition to this number, 40,600 trees have been transferred to various plantations. The exceptionally severe winter was responsible for the loss of a considerable number of trees in the seedling stage at all the nurseries, through being lifted out of the ground by the action of frost.

At Eweburn Nursery some three-year-old trees which had been recently transplanted were also lifted by frost, but the total loss amounts to a very small percentage of the entire stock.

The lowest readings of the thermometer at the nurseries were: Eweburn, 5° Fahr.; Tapanui, 14° Fahr.; Rotorua, 21° Fahr.

The growth of nursery stock has been fairly good at all the nurseries, particularly at Rotorua and Tapanui, although the seedlings at the latter place have not made quite so much growth as usual owing to a continuous sunless summer.

During the ensuing year it is proposed to plant out permanently in plantations 80,000 trees from Eweburn Nursery, 170,000 from Tapanui Nursery, and 150,000 from Rotorua Nursery—in all, 400,000 trees. The number, however, may be considerably reduced or increased, as much depends on the weather during the planting season, and also on the state of the labour-market, especially in the South, where some difficulty has been experienced during the past year in obtaining men suitable for this class of work. In the Rotorua district Natives have been employed at tree-planting with considerable success. They are easily taught, careful, and painstaking, and the majority of those employed take a thorough interest in their work.

During the year twelve permanent working-plans (in triplicate) have been made for the planting of various combinations of trees to suit the different soils and situations at the several plantations.

Plans and specifications were prepared for outbuildings at Rotorua Nursery, nurseryman's cottage at Eweburn Nursery, and a band rotunda for the Sanatorium grounds, Rotorua.

Special reports have been made on reserves under the control of the Wanaka Islands Domain Board, plantations on Albury Estate and Seaward Bush, extension and improvements of Hammer Springs grounds, improvement of Taupo Domain, Wedderburn Nursery, Hot Springs Reserve, Tokaanu, stock reserves at Opepe and Rununga, and working-plans furnished for planting by the Mackenzie County Council, and Naseby Domain Board.

Two hundred and forty specimens of trees, shrubs, and grasses have been received and identified for officers and correspondents.

Full details, giving the names, numbers, size, and values of all trees, &c., in stock, are appended in schedules herewith.

Statements of expenditure and values from commencement of operations in September, 1896; plans of nurseries, showing location of crops and other information; photographs of Tapanui and Rotorua Nurseries; reports on the maintenance of and improvements to Sanatorium grounds and park, Rotorua, Pukeroa Hill Reserve, Kuirau Hot Spring Reserve, Whakarewarewa Geyser Reserve, and the street trees in Town of Rotorua are also appended.

CENTRAL NURSERY, EWEBURN.

This year has been a record one for intense cold and rainfall, the latter being 19·21 in., against an average of 13·32 in. for previous years. The winter was by far the most severe yet experienced in the district—no less than 27° of frost being registered during July. The driest month was June, with 00·36 in. falling on one day; and the wettest, December, with 3·43 in., falling on thirteen days. Several thousand three-year-old trees which had been transplanted during the autumn were thrown out of the ground, and perished by intense frost, but the only other trees that suffered were the tops of *Pinus insignis* showing through the snow, and the young growth on laurel hedges which was cut back to the old wood. These, however, have started into growth again, and are evidently none the worse of their prolonged freezing.

Transplanting of seedlings was commenced in September, and completed towards the end of November, with a very small percentage of loss, owing to the favourable showery weather which followed. These have all made good healthy growth so far: those doing best being *Pinus austriaca*, *Pinus ponderosa*, *Pinus strobus*, and *Abies douglassii*. This applies also to the three- and four-year-old trees. This year's seedling trees are a fine healthy crop, with the exception of larch, which is very "patchy." The four-year-old trees have made good growth this season, and they have been prepared for transferring to the plantation area, by being "raised" with the spade, and tramped back again, a process which tends to reduce the risk of failure by transplantation.

The value of nursery stock has increased during the year from £1,071 15s. 9d. to £1,725 11s., including this year's crop, which is £274 5s.

All spare ground has been utilised for growing horse-feed, such as oats for chaff, clover hay, carrots, &c. Such crops have a beneficial effect in preparing the land for the more valuable tree-crops to follow, especially with the addition of a moderate application of lime, and a system of deep cultivation.

Shelter-breaks have been planted on the exposed sides of the nursery and adjoining paddocks, consisting chiefly of *Pinus insignis*, birch, mountain ash, and laburnum, and this work will be extended during the year. As a temporary shelter for the protection of seed-beds, a fence of