

ROTORUA NURSERY.

(Area of enclosure, 163 acres; altitude (approximate), 1,000 ft.)

The rainfall for the twelve months ended 31st March, 1914, amounted to 41.11 in., falling on 152 days, the heaviest monthly fall being in November, when a total of 6.66 in. was recorded for twenty-two days. The months of July and August were very wet ones, 10.77 in. falling on thirty-six days; while during December rain fell on seventeen days, with a total fall for the month of 4.47 in. The maximum shade temperature for the year was 79° F., this being recorded on several occasions during the months of December, January, and February. The minimum shade temperature was recorded in June, when the thermometer registered 22° F. Frost occurred on ninety-seven nights during the year, being most severe in June, when the temperature was at freezing-point or below it on twenty-one occasions.

During the early part of the year the weather was unusually dry, and great care had to be exercised in transplanting the young trees. From July to December the rain was frequent and heavy, while the last three months of the year were extremely dry. This is the second year in succession in which an unusually dry summer has been experienced, and to this fact the large proportion of seedlings which succumbed may be attributed.

Seedling Trees.

The trees raised during the year from seed are, as a whole, a splendid lot. Certain species suffered from the dry weather to a large extent, while others have made unusually good progress. The number raised is estimated at 4,191,450, details of which will be found by referring to Schedule V, which is attached to this report. The principal crops are referred to in the following notes:—

Larch (*Larix europaea*).—From 3 cwt. of seed 1,000,000 trees were raised. The seedlings are strong, healthy, and vigorous, and free from the larvæ of the beetle, which hitherto has made the growing of this species somewhat risky.

Corsican Pine (*Pinus Laricio*).—Owing to the small seed-crops in Europe it was impossible to obtain the usual quantity of seed of this tree. Only 13½ lb. were sown, resulting in a crop of 15,000 seedlings. Germination was very poor, being only about 3½ per cent.

Heavy Pine (*Pinus ponderosa*).—From 340 lb. of seed 1,000,000 plants were raised. Germination was good, and the seedlings, on the whole, have made fairly good growth. About one-third of the crop is what we have always regarded as the typical *P. ponderosa*, while the remainder resembles the variety known as the rock-pine, or *Pinus ponderosa* var. *scopulorum*. Contrary to expectations, the drought has been somewhat severe on the seedlings thought to be rock-pine, and less severe on the typical form, from 10 to 15 per cent. of the former having been killed.

Weymouth Pine (*Pinus strobus*).—From the sowing of 46 lb. of seed 100,000 seedlings resulted. The germination has been unusually good, and the crop as a whole is the best one that has been raised here for many years.

Monterey Pine (*Pinus radiata*).—This is a very fine crop, germination was good, and the seedlings made strong healthy growth. The trees raised from 200 lb. of seed are estimated at 1,000,000. These will be transferred to Whakarewarewa Plantation during the coming winter.

Douglas Fir (*Pseudo-tsuga Douglasii*).—From 130 lb. of seed 75,000 trees were raised. Excellent growth has been made by the seedlings, which vary in height from 2 in. to 6 in.

Eucalypti.—The principal crops are *E. resinifera* and *E. resinifera grandiflora*, which combined number 250,000 trees. These were raised especially for planting at Puhipuhi Plantation. The germination was very good, and the plants are vigorous and healthy. The balance of the crop of *Eucalypti*, numbering about 30,000, comprises twenty-four different species, which were grown experimentally, and which will be given a thorough trial in each of the plantations. The species to which the most interest will probably be attached is *E. Macarthuri*, this being the very valuable timber-tree grown by Mr. Richard Reynolds at Trecarne, Cambridge, and so favourably commented upon by the Royal Commission of Forestry, 1913. This species has not previously been tried in the Rotorua district, but there is every indication that it will prove hardy and otherwise suitable. Seed was supplied by Mr. Reynolds from his trees. *Euc. regnans* and the fastigiate form of this species has been grown from small packages of seed obtained from various sources. This species has proved hardy in Rotorua, and is the fastest grower of any yet tried. It is common in many of the plantations formed by the Railway Department, and has been planted to some extent by landholders in the Waikato. Everywhere it appears to develop rapidly into tall, straight, and magnificent specimens. At Whakarewarewa trees of this species have attained a height of 70 ft. in fourteen years. A small quantity of seed was saved from these and sown last spring. Seed gathered by the Rev. J. H. Simmonds, principal of the Wesley Training College, Auckland, from magnificent specimens growing in the Waikato was also sown with successful results; and from sample packets presented by the Victorian Forestry Department, and Mr. Andrew Murphy, Woy Woy, New South Wales, some 500 plants were successfully raised. As this species produces a valuable building-timber, the experiments with the seeds from the various sources will be of considerable value to the Department.

All the other species of *Eucalypti* mentioned in the schedule have grown satisfactorily. In every instance a special endeavour was made to procure the seed from reliable sources, so that the results obtained with each species could be regarded with confidence.

Various conifers and broad-leaved trees were raised from seed experimentally to add to our collection of specimens.

Two-year-old Trees in Seed-beds.

Larch (*Larix europaea*).—This crop made excellent growth up to the beginning of January, but the dry weather experienced subsequent to this date caused a heavy death amongst the trees. The