

ROTORUA NURSERY.

(Approximate area, 85 acres; approximate altitude, 1,000 ft.)

The results of the last year's operations at this nursery are most satisfactory, in spite of the fact that extremes of weather were experienced. From April to December the rainfall was very heavy, while the months of January and February were extremely dry and hot.

Rain fell on 139 days during the year, with a total fall of 55·56 in., this being less than that recorded the previous year—namely, 69·03 in. on 174 days.

The minimum shade temperature was 21° Fahr., or 11° of frost on the 8th June and 25th July; and the maximum temperature was recorded on the 17th December, with 92° Fahr.

Last winter's work was perhaps the heaviest on record, seven million trees of various ages being handled in one way or another. Lifting and counting the lined-out trees in readiness for the plantation cost on an average 2s. 6d. per thousand. Sizing seedlings cost 2s. per thousand. Lining out seedlings cost 1s. 7d. per thousand; and mossing 379,000 eucalypti cost 12s. 6d. per thousand (this rate includes, besides the actual mossing, the cost of gathering moss and flax, and lifting trees and heeling in).

Trees sent out during the year to plantation reserves, &c., number 4,813,367, and are valued at £8,498 15s. 4d. (details are shown in Fourth Schedule appended), and the total number of trees sent out from the nursery since its inception is 17,801,299, valued at £37,009 4s. 6d.

Seed-sowing was completed under very adverse weather-conditions. A start was made during the last week of September, and 30 lb. of pine-seeds sown, but, owing to rain, it was impossible to make further sowings until the 18th October, and from then until the end of November, when the sowing was completed, the weather was very broken, and the work much retarded in consequence.

The crop of seedling trees is exceptionally fine, all species having germinated well, with the exception of *Pinus strobus*, and this may be classed as moderately good.

Californian redwood is the finest crop of this species that has been obtained here during the last seven years.

Larch is a better crop than was obtained last year, both in regard to the percentage of germination and to the size of the young trees, 50 per cent. of which are from 3 in. to 6 in. high, and will need to be lifted from the seed-beds and transplanted into the nursery rows. The three species of eucalypti sown germinated well and evenly, the result from 19 lb. of seed being about 750,000 trees. The number of trees raised from seed during the year is 4,550,000, and their value £4,537 10s.

Two-year-old seedlings have made good growth, and fully 75 per cent. of these will be available for transferring to the plantations during next winter. The grass-grub has not been nearly so plentiful during the summer as it was last year, and, with the exception of one or two small patches, the trees are remarkably healthy.

Amongst the lined-out trees the results are most gratifying, all species having made good growth, and the only deaths that are at all noticeable are amongst *Pinus Laricio*, where about 10 per cent. have succumbed owing to the drought. The rate of growth generally throughout the lined-out trees is perhaps less than usual, owing to the dry summer, but all the trees are of a suitable size for sending to the plantations.

A few hundred *Pinus Torreyana* were transplanted into nursery lines, but with poor results. From trials extending over three years with this species it would appear that it is unprofitable to grow owing to the large percentage of deaths when transplanting. In this respect it resembles *P. Canariensis*: it makes rapid growth in the seed-beds, produces a long straight tap-root and very few secondary roots, even when "wrenched."

The number of trees of all ages in the nursery at the 31st March is estimated at 7,864,700, and their value £10,857 9s.

The general formation scheme has progressed well during the year. The area acquired next the cemetery reserve was enclosed with a rabbit-proof fence, while the entrance-gate was improved by erecting a chain of picket fence on either side. On this area all the odd corners have been planted with flax, about 2,000 plants being used, and inside the fence-line next to the public road a row of *liriodendron* was planted.

Improvements to roads—such as grading—were also affected, and several of the most-used ones were gravelled. A shelter-shed 16 ft. by 12 ft. was erected on the nursery extension in a position equally convenient from both sides of the Puerenga Stream. This has been of great benefit to the workers during showery weather, and much time is saved by storing the tools here at night instead of bringing them to the workshop.

In order to economize space on the seed-beds 100 of the 3 ft. wide frames were dismantled and reconstructed into 6 ft. ones. Material for 200 3 ft. frames was received from Starborough Nursery, and it is proposed to convert these into 6 ft. ones before next spring. The stock of seed-frames will then number 1,181.

The water-supply has been in a most unsatisfactory condition during the past season, there being sufficient only to meet the requirements of the stables and cottages, and little or none for use on the seedlings. The supply-pipe that was laid down about ten years ago consists of about half a mile of 1 in. pipe, which passes through land permeated with sulphur and other minerals, and, owing to the numerous *ngawhas*, the route is a very circuitous one. The pipe at present is very much corroded, and inside it is thickly coated with a white deposit, thus reducing its carrying-capacity by about a fourth. From the foregoing particulars it may be perceived that the supply is not a plentiful one, nor the pressure great. Owing to the numerous leaks, it would probably be necessary to lift and renew almost the whole length of the pipe, but in order to avoid the