

different localities, because various climatic conditions would be available, and thereby a greater variety of timber could be grown. Assuming that the timber requirements of the Dominion as estimated by the Royal Commission on Forestry, 1913, is correct, the State will require to provide for cutting out an area of 14,000 acres annually thirty years hence. This means the gradual planting of 560,000 acres, but owing to the slower growth of certain species, which will probably take forty years to mature, the planting for the first ten years will require to be considerably increased. Species which can probably be grown on a thirty-year rotation are *Pinus radiata* and a number of the *Eucalypti*; those requiring forty years are *Pinus Laricio*, *Pinus ponderosa*, and Douglas fir. Other trees could be mentioned, but the foregoing are sufficient to illustrate what is meant. To enable an area of 14,000 acres to be cut out annually thirty years hence, it will be necessary to plant 21,000 acres of the thirty-year rotation species and 7,000 acres of forty-year kinds annually for ten years, and thereafter at the rate of 14,000 acres annually in whatever proportion is desired. In the Rotorua district the reserve known as Whakarewarewa Plantation will probably be all planted during the coming winter, and arrangements are now in hand for securing a further area contiguous to the present enclosure. At Kaingaroa there is sufficient land reserved for some years to come; but as this locality, owing to the high altitude, is unsuitable for many classes of trees, the reserve here cannot be made to meet all the requirements of the district.

The reservation of land for the future operations of the Department is a matter which should be settled as soon as possible. With the advancement of settlement and railways the cost of land is gradually increasing, and, although it may be many years before some of the areas which would be acquired would be needed for afforestation purposes, they could in the meantime be leased on conditions which would enable them to be resumed as required.

PROPOSALS FOR 1915-16.

Rotorua Nursery.—About 3,000,000 trees will be transferred to the plantations during the coming winter. Provision was made for supplying trees to farmers, but owing to the shortage of some of the crops the number available for this purpose will probably not exceed 60,000. Seeds for sowing next spring are now being procured in sufficient quantity to raise 5,000,000 trees. Further office accommodation and an addition to the implement-shed are urgently required, and will be erected during the year.

Whakarewarewa Plantation.—Preparations are now well forward for planting close on 1,000 acres, principally with Monterey pine and Douglas fir. The thinning proposals for the year as submitted in the working plans will also be carried out.

Waiotapu Plantation.—Owing to the shortage of Corsican pine no planting will be done at this station. The thinning of larch will be continued.

Kaingaroa Plains Plantation.—One thousand acres will be planted with yellow-pine (*Pinus ponderosa*).

Puhipuhi Plantation.—One hundred and fifty acres will be planted with *Eucalyptus resinifera grandiflora* and *Eucalyptus Macarthuri*.

GENERAL.

I have to express my appreciation of the zealous manner in which the officers of this branch have attended to their duties during the year.

Attached hereto are reports on the several stations under my charge.

H. A. GOUDIE,
Superintending Nurseryman, North Island.

ROTORUA NURSERY.

The rainfall for the year ending the 31st March amounted to 33·47 in., falling on 131 days. This is the lowest fall ever recorded at this station. Records have been kept for seventeen years, during which period the average annual fall has been 52·20 in. on 149 days. Previous to this year the lowest rainfall occurred in 1910-11, when rain fell on 137 days, with a total fall of 39·58 in.

Although, owing to the drought, the propagation of trees has not been as successful as usual, there has nevertheless been a fair measure of success. The estimated number of trees raised from seed during the year is 7,286,150, details of which are given in the schedule attached hereto. Plentiful crops of *Pinus Laricio* and *Pinus radiata* were obtained, but the species which were sown later in the spring failed in many cases to germinate, and in other instances germination was very sparse. Watering was almost continuously resorted to, but however carefully this is done some parts of the seed-beds get more water than others, with the result that the germination is patchy. *Eucalypti* seed in some instances remained in the ground from November till March before germination took place, and it is feared that the plants will not attain to a transplanting size before spring. There is, however, a sufficiency of plants for our requirements of *Eucalyptus Macarthuri* and *E. resinifera grandiflora*. The crops of Douglas fir, *Pinus ponderosa*, and *Pinus strobus* are very patchy and thin. Since the rainfall in March good growth has been made by most of the seedlings, but, on the whole, they are much below their normal size.

The lined-out trees and the two-year-old trees in seed-beds made very little growth up till February, but have since made splendid headway. The Douglas fir crop is a good one, but plants in the seed-beds have suffered to some extent from the larvæ of the brown beetle (*Odontria puncticollis*), which has in the past been so severe upon the larch.

It is estimated that the trees in the nursery at 31st March numbered 10,450,000. Of this number, about 3,000,000 will be available for transferring to the plantations during the coming winter. The number raised since the inception of the nursery is 56,185,307, of which 45,734,402 have been transferred to the plantations or supplied to local bodies, &c.

Manuring.—The beneficial results of the systematic use of fertilizers and the growing of manurial crops is manifested in the improved growth made by the trees on land thus treated. Unfortunately,