

DEER IN PLANTATIONS.

Whakarewarewa Plantation.—Red deer have continued to do considerable damage to trees on the higher country. Many of the small trees which were damaged made a quick recovery, but even allowing for these the percentage of permanently injured trees is high on the more recently planted areas on Moerangi. Shooting was carried on in and out of season, and this had the effect of either driving the deer temporarily out of the plantation or sending them to cover, as they were not much in evidence during the winter months, but reappeared at the Wairoa end in large numbers in September. So long as the deer receive protection in any part of this district there is little prospect of clearing the plantation of the pest, as the amount of available cover makes it an ideal camping-ground. It is proposed to initiate a more vigorous campaign against these animals during the coming year at an estimated cost of £150. In the Kaingaroa Plains Plantation some twenty or thirty deer have been observed in the planted area at this station. So far no damage has been seen, but no doubt this will show up shortly.

PROPOSALS FOR 1924-25.

Hereunder is shown briefly the proposed operations during the coming year:—

<i>Tree-growing—</i>			
For plantations	..	..	5,000,000
For sales	..	..	2,000,000
			7,000,000 trees.
<i>Establishing—</i>			
Kaingaroa Plains	..	..	4,200,000 trees on 6,000 acres.
<i>Utilization—</i>			
<i>Thinning—</i>			
Whakarewarewa Plantation	..	..	50 acres <i>Pinus Laricio</i> and <i>Eucalyptus Risdoni</i> (under permit).
Waiotapu Plantation	..	..	20 acres <i>Pinus radiata</i> by plantation labour.

ANNEXURE III.—REPORT UPON STATE FORESTATION OPERATIONS IN THE SOUTH ISLAND.

(By W. T. MORRISON, Conservator of Forests, Canterbury-Otago Conservation Region.)

EXTENSION OF PLANTATIONS.

The past year has been marked by distinct progress in afforestation operations in the South Island, and I have to report a general advance in the results of both tree-raising and plantation operations.

The total planting operation for the year was 1,453 acres of new area, which constitutes a record for the past ten years. The main planting was at Hanmer Springs and Balmoral, where a total of 1,038½ acres were formed. The "strike" was eminently successful, and the mortality can be averaged at 3.95 per cent., the actual figures being—Hanmer Springs Plantation 4.7 per cent., and Balmoral 3.2 per cent. The main planting consisted of *Pinus ponderosa*, *P. Laricio*, and *P. Banksiana*, of which the total number for the two plantations was 668,310 trees. The actual mortality with these species was less than 1 per cent., the higher figures being accounted for by *P. radiata*, *P. pinaster*, and Douglas fir, of which only a small quantity was planted. These satisfactory results are due mainly to the introduction of a new planting-implement, the adoption of a more natural system of planting based on observation of local soil conditions, and the use of the planting-bucket in lieu of the old canvas planting-bag. The new implement is on similar lines to the Schlich planting-spade, but has been modified to suit the special soil conditions. Not only has it ensured a higher "strike" percentage, but it has considerably reduced the planting-costs per thousand trees by eliminating pre-pitting costs. The planting-bucket eliminates the drying-out of the roots while trees are being carried by the planter.

The operations in the Tapanui district totalled 307½ acres, but the results are not quite as successful as those at Hanmer Springs, owing mainly to soil and climatic conditions. In spite of adverse conditions the death-rate up to the end of January did not exceed 5 per cent. over the whole planting, which must be considered satisfactory under the circumstances.

With the exception of Naseby Plantation, the direct method of planting either by notching or grubber system has proved its efficiency under what may be considered an extremely severe test. A comparison of costs between the direct planting and that of pre-pitting shows a reduction of approximately 20s. per acre, and, although the mortality has proved slightly higher as far as the Tapanui district is concerned, the advantage is still with the direct method. At Hanmer Springs the mortality has been very much lower than was the case with the old pre-pitting method.

The total number of trees planted on new area during the year was 1,098,767, and the number used for blocking up previous failures 176,968.

TREE-DISEASES.

The spruce-aphis has again caused considerable damage to Sitka, Norway, and white spruce, and in a number of cases trees have been killed. The experience has been common with the above species throughout the South Island this year, and there seems to be no practical remedy so far. The matter has been referred to the Government Entomologist, who contemplates introducing a natural enemy.