

CONICAL HILLS PLANTATION, NEAR TAPANUI, OTAGO.

(Area, 3,672 acres: altitude, 400 ft. to 1,050 ft.)

As recorded at other local stations, the rainfall for the past year was very limited here, but the shortage of moisture was not so noticeable as in the previous year, owing to excellent rains thoroughly saturating the subsoil in early spring.

370,200 trees, as per Schedules 4 and 5, were carted from Tapanui in fourteen wagon-loads, and planted by day-labour at 11s. 5½d. per thousand, over an area of 136 acres. The total area now under forest-trees at this plantation is 1,082 acres, containing 3,313,579 trees.

259,375 pits were prepared by contract, at £1 per thousand, and 85,267 scuffled spots made for bar planting, at 12s. 4½d. per thousand.

At the end of the planting season 5,000 pits remained, and since that date this total has been increased to 266,150.

Clearing: Only a small expenditure was necessary in removing scrub and rushes from area prior to pitting, and, as there are very few scrub patches throughout the extension property, the annual labour in clearing will not be considerable.

Fire-breaks: Three hundred and forty chains of fire-breaks, averaging 90 ft. wide, were ploughed in April last, and some few months later the disc harrows did serviceable work over the same ground. The area in roads and fire-breaks now reaches 60 acres, and, as the planting extends, new barriers to fires must be formed and kept in a state of efficiency.

Fencing: In enclosing the adjoining 2,622 acres a large amount of work was essential. Removal of the old boundary-fence was undertaken by day-labour, and a substantial rabbit-proof structure put up in its place. The erection was satisfactorily performed by contract, at 5s. per chain; but, owing to the dry weather and consequent difficulty in sinking post-holes, the venture did not prove very remunerative to the contractors.

To facilitate the destruction of rabbits and also allow stock to graze area not immediately required for tree-planting purposes, 210 chains of wire-netting was attached to a division-fence at a cost of 1s. 11d. per chain. The block thus enclosed amounts to 960 acres, and should be a sufficient area on which to plant trees grown locally, at the present output, for two years.

Much success has attended tree-growing operations at this station during the past year, and losses in transplanting would probably not reach 5 per cent., although an unusual number of larger-sized larch put out on the higher levels failed to succeed.

It is very gratifying to report the vigorous growth made by the spruce species: these trees formerly caused uneasiness by their failure to make any pronounced headway on exposed situations, but this year, in place of the yellow unhealthy-looking foliage, robust dark-green leaders may be seen.

The pines, without exception, are also a success, although *Pinus Benthamiana* are developing with greater rapidity than other varieties, and promise to succeed in the most varied soils and positions.

The shelter-breaks of *Pinus insignis* and *P. muricata* are quickly attaining the object for which they were planted, and in a few years' time an immense amount of benefit should be derived from same.

The growth of alder on swampy portions of plantation averages about 30 in., or 10 in. in excess of that put on by poplars.

Up to the present it has been the custom to plant ash and sycamore in sheltered places, but the number of trees available necessitates additional planting of both varieties on somewhat exposed situations. The issue in the latter case is unfavourable, as, whilst excellent specimens may be noticed in sheltered gullies, those growing under other conditions have remained stationary, and appear to be bark-bound. By cutting these trees down to ground-surface a strong shoot may be anticipated for the first year, but a gradual development into the former state would undoubtedly ensue.

The climatic and other conditions have again demonstrated their suitability for the successful raising of larch forests—many of this class putting on 30 in. of vertical growth for the season—and it would be to the interests of the Department if this species of tree were substituted for the two aforementioned slow-growing and uncertain varieties.

Rabbiting has latterly been confined to the recently enclosed block, and frequent trapping and poisoning will be necessary to eradicate the pest before trees are received.

General maintenance: Tree-pruning here is not, so far, an expensive item, although occasional labour is required in removing surplus shoots from young trees where more than one leader exists.

The suppression of strong grass from around trees in the early stages was also undertaken, but this labour generally is principally carried on during the second growing season.

The work during the coming year will be almost confined to the extension block, through which it is proposed to run a fire-break on the summit of the leading range for nearly 100 chains in length.

The expenditure for the year amounted to £1,403 16s. 3d., giving employment to 8.5 men, and the total expenditure to date is £9,686 17s. 11d.

Tools, implements, and fencing-material to the value of £181 13s. 3d. were received from Kurow Nursery.