

improvement of the stands for production of a clean final crop. It is, however, distinctly not a precedent to be followed with the usual class of labour obtainable. In compartments of mixed species underscrubbing and thinning was carried out on the fourth-line system, while in remaining areas the crop was completely underscrubbed and given a moderate B grade thinning.

At Hanmer Plantation, Canterbury Region, 932 acres of larch and pine species were thinned by utilization of relief labour. In this locality the subdominant and dominated *L. decidua* (14–23 years) trees are drawn up and slender, and constitute a menace to the remaining crop in heavy snowfalls. Thinnings varying from 25 to 40 per cent. of the original stocking were made by the removal of leaning, malformed, wolf stems, and a few trees of the lower-crown classes.

In *Pinus radiata* (14–16 years) light 18 to 28 per cent. thinnings removed leaning or diseased trees. By selection of the "chosen tree" and removal of the four surrounding ones an approximately 40-per-cent. thinning was given to the *P. laricio*, *P. ponderosa*, and mixed crops.

At Naseby Plantation every eighth fine was underscrubbed over 54½ acres of *P. radiata* (15 years).

Utilization.

As stated elsewhere, economic utilization of coniferous thinnings has been achieved at Hanmer, where extracted timber was converted locally into sawn timber, sleepers, and firewood, the latter for local use in institutional furnaces.

At Whakarewarewa Plantation thinning of *Eucalyptus* species for posts and poles has been continued on a small scale by contract, while small areas of *L. decidua*, *P. strobus*, and *P. muricata* have been thinned lightly—chiefly the removal of dead or suppressed stems—by plantation labour for utilization as tent-posts and camp fuel.

Seed-supplies.

Again the Service obtained most of its seed requirements locally and was compelled to secure only 27 per cent. of the total amount from overseas. During the past year 3,750 lb. of seed was added to the seed stocks, and of this quantity 2,730 lb. was collected within the Dominion. Of this total, 540 lb., principally Douglas fir (*Pseudo-tsuga taxifolia*) and Corsican pine (*P. Laricio*), was collected from the State plantations. The balance of 2,190 lb., comprised mainly of *P. radiata*, was supplied by seed-merchants from various private plantations.

It is hardly necessary to point out that, as time goes on and the plantations become more mature, a progressively greater number of trees each year will reach the seed-bearing stage, until eventually the Service will become entirely self-supporting so far as its seed-supplies are concerned.

In this connection it may be mentioned that of recent years the Service has specially planted areas of different species of trees in various parts of the Dominion with the primary object of ensuring that future supplies of suitable tree-seeds may be obtained within its own territory.

Sale of Trees and Seeds.

The discontinuance of sales of trees to the public, a policy decided upon in 1930, has been adhered to throughout the year, so that the only sales effected have been to other Government Departments and to several local bodies. These show a marked decrease from last year, 215,600 trees being disposed of for the sum of £516. The sale of seeds has also shown a large decline, 207 lb. having been sold for the sum of £222. These figures will probably be increased considerably during the coming year, for, owing to a poor Douglas-fir crop in America, a large trial order for seed of this species has been placed by an American firm. This order will be filled entirely by seed collected from thriving and prolific seed-bearing State-forest plantations of Douglas fir.

In order to provide work for unemployed, 1,325,000 trees were distributed to local bodies for planting, at the cost of lifting, packing, and transport only: 1,300,000 of these trees were distributed in the Canterbury Region. It is expected that this practice will be carried out to a much greater extent during the coming planting season.

The usual distribution of trees and seeds to schools accounted for 11,000 trees and 150 lb. of seed.

5. TREE-PLANTING BY LOCAL BODIES, AFFORESTATION COMPANIES, ETC.

It is estimated that the area planted in trees by private companies is now in the vicinity of 250,000 acres, an increase for the year of 50,000 acres.

The area planted during the year by local bodies is reported to be not less than 6,500 acres, which makes the total area established to date approximately 27,500 acres under corporate control.

The total area of commercial tree-plantations other than those established by the Service is therefore in the vicinity of 277,500 acres.

Reliable information in regard to tree-planting by private individuals is not available, but by the co-ordination of various returns and the information afforded by the "Statistical Report on the Agricultural and Pastoral Production of the Dominion for 1930–31" it appears that farmers and others have established a total area of approximately 64,000 acres of exotic plantations.

This area, of course, cannot be regarded in its entirety as available for the production of timber for commercial purposes, as its establishment is, no doubt, largely in the nature of farm shelter-belts and ornamental plots. It, however, indicates the extent to which farmers and others are seized of the important bearing that adequate shelter has on primary production.