Forest-extension.

The forest-extension and educational efforts of the Service during the year have given most gratifying concrete results, for the quantity of young trees disposed of to farmer settlers, local bodies, and proprietary companies reached 2,930,564 for the year, as compared with 1,839,512 in 1923–24 and 277,000 for the year 1920. The steadily expanding sales of high-quality forest-trees can be accounted for by the consistent policy of the Service in passing on all economies in production costs to the purchasers, and to wider public appreciation of the definite profitable nature of the timber-farming business.

Tree and tree-seed disposals to farmers, settlers, local bodies, proprietary and co-operative companies, &c., from State nurseries are exposed as follows:—

1919 to 1925.

Year.	Trees for planting. (Number.)	Forest-tree Seeds. (Weight in Pounds.)
1925	2,831,932	1,220
1924	1,839,512	618
1923	1,475,581	746
1922	897,552	436
1921	520,702	240
1920	277,235	130
1919	420,412	132

The large number of proprietary forest-plantation companies which have been launched, and in some cases have begun planting operations, is an indication of the wider public interest in forestry matters.

CHAPTER IV.—RESEARCH AND EXPERIMENTS.

1. FOREST-MANAGEMENT.

Silvical Research.

Beech Forests.

During the past year Dr. L. Cockayne, F.R.S., completed his investigation of the beech (*Nothofagus*) forests, visiting, amongst others, those of Southland (including the area from Lake Manapouri to Doubtful Sound), of the Mamaku Plateau, and of the Urewera. Many details came to light concerning regeneration and the rate of growth of the different species, knowledge which is fundamental in regard to any methods of silviculture. Dr. Cockayne also went most carefully into the matter of classification of the species of *Nothofagus*, and it stood out clearly that the tree hitherto defined merely as a variety of the red-beech (*N. fusca*), called *Colensoi*, was not only a distinct species but a most important timber-tree with a range far wider than had been appreciated. For this species, now to be known as *Nothofagus truncata*, the name "hard-beech" is suggested. Dr. Cockayne has written a comprehensive report, largely of an economic nature, entitled "A Monograph on the Beech Forests of New Zealand," and this is now in the printer's hands. The monograph is illustrated with a large number of photographs, line drawings, and two maps, and it should bring clearly to the public a knowledge of the extreme value of the beech forests, while at the same time it should be of great value to forest officers, dealing, as it does, with the ecology of the forests, their silvicultural possibilities, and the classification and easy recognition of the species and their hybrids.

Tawa Forests.

On the conclusion of his investigation of the beech forests an arrangement was made with Dr. Cockayne to study the tawa (*Beilschmiedia tawa*) forests with special reference to those of the Rotorua region. This research he commenced in January, and from then to the beginning of March he visited various areas near Rotorua, examining the rate of growth of the tawa and the trees with which it has to compete, the various stages of regeneration, and other important matters. The research is still being prosecuted.

The Taxad Rain Forest of Westland.

Mr. C. E. Foweraker, M.A., F.L.S., Lecturer in Charge of the School of Forestry, Canterbury College, continued his investigations upon the "native pine" or taxad forests during the year. He extended his observations to the taxad forests in part of the North Island in order to make comparisons with Westland. His observations in the northern districts showed that the natural regeneration of the virgin taxad is very meagre compared with that in Westland. The taxads seem to be gradually replaced by various broad-leaved trees both in virgin and in logged areas. Firing of logged areas results in a complete lack of regeneration of useful trees. Observations were continued in Westland in areas where regeneration was most marked, and the regeneration of rimu among manuka-covered areas and the behaviour of young taxads in various types of stands was investigated. A first report will be completed during the current year.