

(11.) *Forest Statistics.*—The first national forest inventory and stocktaking, which took over three years to compile, was completed by the Service during the period. This examination now makes available for the first time in the forestry history of New Zealand an accurate survey of the Dominion's resources in forest wealth, and provides the means for accurately building future plans of management.

The report exposes in detail the quantity and distribution of all areas of standing timber and woodlands in the Dominion.

(12.) General forest reconnaissance of the State forests has, during the collection of data for the national forest inventory, or during timber inspections, investigation of watershed-protection forests, &c., since 1920, been carried out over practically the whole of the State forests.

(13.) Land classification and demarcation of the State forest domain—so necessary to the application of scientific wood-cropping plans—was begun during the period, and the land-classification programme is now 36 per cent. completed, as an area of 2,680,530 acres has been examined in the field.

All forest areas chiefly valuable for agriculture have been earmarked for excision, and as the commercial timbers are removed will be released for settlement. All open areas of pastoral value are also being deleted from within forest boundaries.

Demarcation of the State forests has been 7 per cent. completed, 515,340 acres having been permanently defined as to boundaries, and forty-two standard survey plans for these areas prepared and approved.

The Forest Atlas is being gradually built up by the addition of topographic and forest-type features to these authoritative plans.

(14.) Permanent forest improvements have been built wherever urgently required, and include seven dwellinghouses for officers at outlying stations, patrol-huts, a seed-extraction house, and other buildings; over thirty-five miles of forest telephone-line; several miles of forest roads; and over one hundred miles of new forest tracks. Four modern fire lookout stations and many fire-fighting tool-depots were erected in the State plantations.

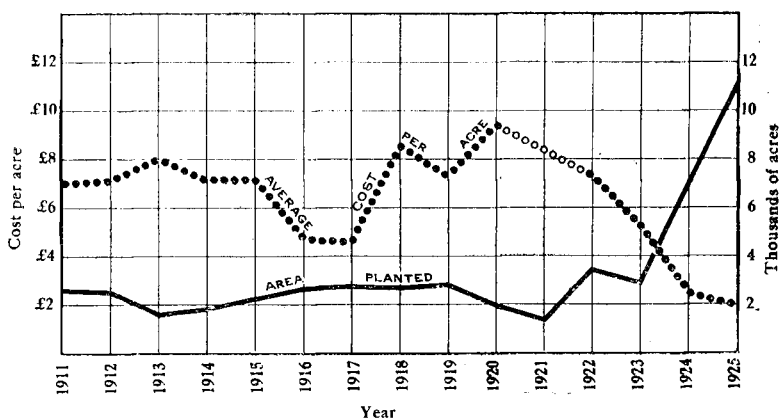
(15.) Preliminary working plans are in operation for Westland Forest Experiment Station and Nursery. Progress during the period in forest-demarcation, forest-improvements, forest statistics, and in silvical, incremental, and utilization studies has been such that forest-management plans can be prepared and applied to certain forests as the necessary technical staff becomes available.

Forest-management investigations completed during the period include volume-tables and mill-conversion studies for the native "pine" (taxad) trees in both Islands, and investigations into the rate of growth in diameter, height, and volume of the most important indigenous and introduced tree species. A Forest Service log-scale has been published.

III. SILVICULTURE.

(16.) Establishment costs in State plantations have been considerably reduced during the period as indicated in the accompanying graph. Because of supernormal costs of labour and material, war-time and immediately post-war years cannot be fairly compared with recent years. The following comparison shows, however, that though labour-costs at the present time are 21 per cent. higher than in 1910–14, yet total planting-costs have been reduced 70 per cent.; for during the two years 1923–24 and 1924–25 17,864 acres were formed at a total cost of £38,969, or of £2 3s. 7d. per acre, compared with the formation in the four pre-war years 1910–11 to 1913–14 of practically half this acreage (8,595 acres), for £62,392, or £7 5s. 2d. per acre. Present low costs of establishment have only been made possible by the introduction of drastic economies in nursery and planting methods, and the development of mass-production practice.

Nursery production costs, expressed as the average cost of raising 1,000 trees, have been reduced 45 per cent., whilst current normal plantation formation costs are £1 19s. 9d. per acre, as compared with £6 18s. 3d. in 1918–19.



GRAPH SHOWING COST OF ESTABLISHING 1 ACRE OF STATE FOREST PLANTATIONS AND AREAS PLANTED, 1911–25.