The demand for general and export containers was sufficient to have allowed the Waipa box-factory to absorb the entire output of the sawmill, but at the request of the Office of the Timber Controller 1,356,000 board feet (2,182,000 board feet) were sold to other manufacturers for the construction of special munitions containers, &c.

At 31st March, 1944, the Waipa stocks were 1,740,000 board feet (1,853,000 board feet). Timber filleted for kiln drying totalled 5,320,000 board feet and for air drying 2,372,000 board feet. The balance of 1,452,000 board feet was sold or used in a green condition. The dry kilns conditioned 5,354,000 board feet, of which 4,877,000 board feet consisted of green timber and 477,000 board feet partially air-seasoned. The kiln-drying costs, amounting to only 3s. 5d. per 100 board feet, are by far the lowest in New Zealand. Dipping to prevent sap-stain in air-seasoned stock was discontinued during the year owing to the prevalence of dermatitis amongst the men handling the dipped timber. A deterioration in the quality of air-seasoned timber has undoubtedly resulted, but will shortly be corrected by the wider use of kiln drying and by the dipping of the timber after it has been filleted in unit packages instead of before, thus eliminating any handling of the dipped boards.

The profit earned by the sawmill and dry kilns amounted to £12,276, as compared with £9,822 for last year.

67. *Waipa Box-factory and Planing-mill.*—During the year the box-factory converted 7,763,000 board feet of exotic softwood into box shooks, representing a 77-per-cent. increase on the previous period's record of 4,380,000 board feet. Manufacture was largely confined to export containers, amongst which were 100,000 cheese-crates, 297,000 meat-cases, 99,000 biscuit-cases, 10,000 boot-cases, 181,000 raw-vegetable cases, 141,000 dehydrated-vegetable and tinned-fruit cases, 125,000 barbed-wire reels, 79,000 nail-cases, 19,000 bacon-cases, and 23,000 oatmeal-cases. In addition, 47,000 fruit-cases and 5,000 miscellaneous cases were made, and 86,000 board feet of timber dressed for special purposes. The box-factory operations show a profit of £15,384 for the period, as compared with £5,402 for last year. In the case of both sawmill and box-factory, extra depreciation has been provided for to cover the abnormally large production achieved during the year.

68. *Departmental Wood-preserving Activities.*—Full-time output from the Rotorua creosoting plant was not obtained owing to an insufficiency of seasoned stocks—a deficiency brought about by an earlier diversion of labour to the urgent production of defence requirements—but with stocks now being replenished an increased output is anticipated for the current year. Production from the plants at Hanmer and Conical Hills was maintained at a satisfactory level. The year's operations are summarized in Appendix III. The demand for creosoted posts from Rotorua has greatly exceeded the plant's capacity to supply, and regular customers have been rationed as equitably as possible, although latterly rail restrictions have prevented the fulfilment of orders.

69. *Exotic-forest Exploitation.*—"There is a tide in the affairs of men which taken at the flood leads on to fortune." This is just such a critical period as exists in the exploitation of the Dominion's exotic-forest resources. Annual reports of the Department have emphasized for many years that with the pending commencement of exotic-forest cropping it was imperative that the cardinal error be avoided of perpetuating the indigenous type of sawmill in converting the exotic logs into sawn timber. Already the use of this type of equipment in working up shelter-belt and woodlot exotics had perpetuated the inaccurate sawing and subsequent abuse in storage and drying so characteristic of much of the indigenous timber, and strongly prejudiced many users both in New Zealand and Australia against the locally grown exotic softwoods.

In the profound belief that it must correct this position before any large-scale production eventuated, the Government as guardian of the national forest policy, and as the result of a world-wide investigation into conversion practices of all kinds, established the log-frame sawmill at Waipa. Its major objective was fourfold:—

(*a*) The principle of sorting logs according to their diameters, &c., and of sawing each group on a mass-production basis as practised in both Northern and Eastern Europe promised such economies that it was vital to study the practical adaptation of Scandinavian equipment to the working-up of New Zealand-grown exotic logs:

(*b*) Owing to the high cost of producing small-diameter logs, it was essential to reduce waste to a minimum and secure the largest possible yield of sawn timber per cubic foot of log:

(*c*) The timber should be so accurately sawn that it could be machined and fabricated with a minimum of waste in wood-using factories:

(*d*) The timber should be so well dried and merchandised that it could compete on a quality basis with other timbers imported into both New Zealand and Australia, and used as substitutes in both countries for building as well as for boxmaking, &c.

Not only have all four objectives been attained, but the all-important proof of economic operation at existing price levels has been established beyond all possible doubt. *Seriatim* it has been discovered that, due to the large number of logs "with sweep"—that is, which are bent or out of the straight—amounting to between 50 per cent. and 70 per cent. according to species and site, the log frames are ideally suited to their conversion, although involving sawing practices not usually employed with this type of equipment. For this reason the usual recovery by circular sawing of long-length timber per cubic foot of log has been increased by 20 per cent. and waste reduced accordingly. The true significance of these two successfully achieved objectives can best be judged by considering that if the