

Butter-box Tests.—The outstanding feature of the export butter-box trade is the increasing use of the Saranac box, which accounted for 51 per cent. of the total boxes exported during the 1933-34 season. In spite of its poor insulation properties and low re-use value, this type of package continues to gain in popularity, and the first factory to substitute veneer stock for sawn timber was established during the year. Shippers also continue to experiment with fibre-board boxes, but here again the disadvantage of poor insulation acts as a deterrent to their use. To economize white-pine supplies, sap rimu and miro are being used in increasing quantities for cheese-crates and milk-powder boxes, while experiments are still in progress to determine the value of sap rimu for butter-boxes, a shipment having been forwarded recently to London for observation and report.

Kiln Drying.—In accordance with the Department's policy of encouraging better seasoning practices for New Zealand timbers, the services of technical officers were made available to timber operators who installed dry kilns in Westland and Invercargill. These officers supervised the drying of initial charges and trained operators for the subsequent management of the kilns. Schedules were developed in Westland for the drying of white-pine, and in Southland for the drying of rimu.

Wood-preservation.—An inspection was made of the 100 rimu poles creosoted in Westland in 1930 and placed in service lines in Canterbury and Greymouth by the Post and Telegraph Department soon after treatment. All the treated poles are still free from decay, but the severe checking which has occurred in the poles installed in the drier part of Canterbury indicates the necessity for artificially seasoning poles intended for this locality prior to treatment. In response to numerous requests for information on the control and prevention of borer attack, a manuscript has been prepared for publication.

Experiments were also conducted by the Dominion Laboratory into the possibility of preserving the pigment figure in heart rimu which, unfortunately, is liable to bleach out when exposed to sunlight. Promising results have been secured, using cobalt mixtures under accelerated exposure conditions, and the tests are being continued on a wider scale than previously to ascertain the commercial possibilities of the treatment.

Wood Identification.—The identification of New Zealand and foreign woods has continued to receive attention, and a valuable store of information has been accumulated to facilitate routine requests for identification.

New Uses for Local Woods.—Markets for New Zealand timbers generally have gradually been extended and new uses found. Thus, pencil-manufacturers in Australia and Great Britain were interested in totara for lead-pencil manufacture, while locally the use of tawa for the manufacture of clothes-pegs, dowels, and handles was considerably increased. Tests are at present in progress to determine the suitability of silver-beech for cable-separators, of southern rata (*Metrosideros lucida*) for telegraph cross-arms, of silver-beech for beer-barrels, and of tawa for shoe-heels.

2. EXOTIC FORESTS.

Exotic-pine Timbers for Butter-boxes.—The steady depletion of indigenous white-pine supplies in the North Island has aroused considerable speculation as to the possibilities of using exotic-pine timbers for butter-boxes. As the Council for Scientific and Industrial Research of Australia had proved that a casein coating on the inside of exotic-pine boxes was successful in eliminating taint, co-operation was effected with the Dairy Research Institute, Palmerston North, in demonstrating the process locally. Owing to the general superiority of the indigenous white-pine, however, and the cost of the treatment, it is probable that the process will not become of great commercial significance until white-pine supplies are much further depleted.

Utilization of Thinnings.—With the increased shortage of mature insignis-pine stands in New Zealand, sawmillers are giving attention to the possibility of utilizing exotic softwood thinnings for the manufacture of boxes and crates. The first sale of timber for such purposes was made during this year, a substantial volume of thinnings having been contracted for from the older stands in the Dusky and Conical Hills Plantations. The material available is particularly suitable for crates and boxes of the batten type, such as cheese-crates, fruit-cases for the Island trade, &c., and cases for the banana trade have already been supplied to Samoa.

Thinnings from the exotic forests have also found favour for mining work, and, with the development of cheap preservative treatments, may be expected to dominate this market.

Creosoting of Exotic Fencing-timbers.—Fencing-posts of various exotic species, preserved with creosote and erected at varying periods during the past twelve years, show the excellent durability which can be secured by suitable preservative treatments with timbers which are naturally non-durable in the ground. Treated posts of larch (*Larix decidua*), Douglas fir, and a number of gums (*Eucalyptus* spp.) are all sound after twelve years' service at Rotorua, while many small-sized thinnings of Corsican, Austrian (*P. austriaca*), and pondosa pine are exhibiting good durability after eight years' service, and although some of the lightly treated pine-posts have decayed, the heavier-treated posts are still in perfect condition, and will last many years longer. As a result of these tests, it is proposed to treat several thousand posts for current fencing projects during the coming year.

Durability of Exotic Pole-timbers.—Information continues to be accumulated on the durability of locally grown gums for pole-line construction. *Eucalyptus globulus*, which is the only species to have been used extensively, appears to have a relatively short life of less than seven years, and, while it is too early to draw any definite conclusions regarding the durability of other species, the few *Eucalyptus risdoni* poles which have been used promise excellent results. A study to determine the possibilities of creosoting *Eucalyptus ovata* poles is in progress, one hundred poles now being seasoned preparatory to treatment.