

4. DRYING OF TIMBER.

While little, if any, improvement in air-drying practices is evident throughout the industry, marked progress continues to be achieved with kiln-drying. Not only were a number of completely new installations made during the year, but in several cases existing equipment was duplicated. The two joinery factories erected by the Housing Construction Department have likewise been equipped with dry kilns; and the total dry-kiln equipment now available to wood-users is having a material effect in improving the standard of building construction throughout the Dominion.

Prejudice against kiln-dried timber continues to be experienced, and may tend in some localities to increase through the use of poorly kiln-dried timber. Consumers are therefore urged to take advantage of the advisory service which is made available by the State Forest Service for the guidance of all interested in the proper drying of timber. Reference was made in the previous annual report to various weaknesses in kiln-drying practices, and while every effort is being made to correct these much room for improvement still remains. The special attention of consumers is directed to the fact that disastrous results may follow the drying of mixed qualities, thicknesses, and species of timber, and to guard themselves against such possibilities they are recommended to insist upon the separate drying of different qualities, thicknesses, and species. The attention of kiln-operators is likewise directed to the necessity for exercising greater care in the preparation and placement of kiln samples, as reviewed in the previous annual report. It is also pertinent to state that the kiln-drying of 3 in. and 4 in. stock should be recognized as involving drying periods which make the operation comparatively costly, particularly if the kilns are required for the drying of thinner stock. It would appear in most cases to be more economical if sufficient quantities of such stock could be assembled and air-dried down to about 30 per cent. moisture content before kiln-drying.

In conclusion, wood-users may be assured that properly controlled kiln-drying is immeasurably superior to air-drying. The basic consideration is that with the increasing tendency to improve the insulation of houses and to centrally heat all classes of buildings, the timber required for such structures cannot be used without further shrinkage even if air-dried for ten years or more, but must be kiln-dried to secure that shrinkage prior to use. On the other hand, it must be emphasized that poor kiln-drying can damage timber much more seriously than air-drying, and potential operators of kilns are warned against the erection of equipment unless it is of approved construction and design and unless they are prepared to place in charge thereof a kiln-operator of more than average intelligence. A general warning is issued against the use of so-called insulation boards for the lining of dry kilns, especially of roofs.

5. GRADING.

Arising out of the numerous price investigations and the operation of the Butter-box Pool it became apparent early in the year that an early revision of practically all grading rules was imperative. Studies were therefore initiated into the modification of the National Grading Rules for Building Timbers formulated in 1928. The underlying purpose of this investigation was to correct the inherent limitations of the so-called "medium" quality which was introduced into the grading of rimu and miro for the first time in 1928 and to redefine the definition of "heartwood" to bring it into conformity with standard timber nomenclature in other countries.

A far-reaching study was also undertaken with a view to standardizing the sizes of the various types of butter-boxes so that these could be manufactured from the same-sized timbers. A complementary investigation covered the grading of white-pine on a percentage yield basis so that the natural product of the log could be used to the best advantage in the manufacture of the various types of containers. Although not completely finalized, the results of these studies will be used in the operation of the Butter-box Pool for the forthcoming year, enabling marked economies to be effected thereby.

In co-operation with the New South Wales Forestry Commission, a comprehensive study was undertaken into the grading of poles, cross-arms, sleepers, and general constructional timbers for use in New Zealand. Officers of the Commission visited New Zealand for the purpose of conferring with officers of this Service and of all the important wood-using departments, and as a result of their investigations it has been possible to eliminate much of the trouble which has hitherto occurred in the export of New South Wales hardwoods to New Zealand.

While the State Forest Service is responsible for the field studies in connection with grading investigations, final decisions thereon are made by a Special Timber Committee set up by the Government for this and other purposes in 1927. With the establishment of the New Zealand Standards Institute this Committee, in all matters pertaining to grading, acts as a sub-committee of the Building Divisional Council of the Institute, and to it there are being reported the whole of the investigations outlined above. In the case of the Australian hardwood investigations a sub-committee, consisting of officers of the New Zealand Railways, the Public Works and Post and Telegraph Departments, and the State Forest Service, was set up to produce standard specifications for all classes of imported hardwoods, and this work has now advanced sufficiently to warrant an announcement that these specifications will receive early consideration by the Special Timber Committee for recommendation to the New Zealand Standards Institute as tentative standards. Similar action by the Timber Sub-committee in respect to both the National Grading Rules for Building Timbers and to white-pine grading rules is also anticipated during the forthcoming year.

6. WOOD PRESERVATION.

Continued observation of the creosoted fence-post and telegraph-pole lines erected throughout the Dominion, some of which are still serviceable after fifteen years' use, augur well for the plans which have now been entered upon for the production on a commercial scale of creosoted posts and poles, &c. Open tank plants are being erected at the outset for the treatment of larch and eucalypt timbers, but these will be followed next year by the installation of pressure plants to deal on a still larger scale with the large quantities of pine timbers now becoming available as a result of thinning operations.