Regarding such experiments the following may be stated: (1.) Each experiment must be on a sufficient scale to preclude any experimental error. (2.) All timber must be properly seasoned. (3.) The ages of all the exotic timbers should be ascertained. (4.) Each set of experiments must be conducted with an exactly similar dairy-product. This also applies to the control of white-pine boxes. Grading must take place before packing and when unpacked. (5.) If *Pinus radiata* is a success that tree would naturally be recommended on account of its afforestation qualities as detailed in Part II of this report. There should be experiments with trees of that species of different ages, and also from timber seasoned both before and after milling, as well as from timber milled when green.

PART II.—AFFORESTATION.

1. As to the Probable Future Demand for Timber for Commercial Purposes in New Zealand.

The question here asked is one of extreme difficulty and complexity, and the answer could be little more than a guess, even were far more reliable statistics available than is at present the case. Before the subject can be approached with any degree of accuracy the following questions amongst others must be answered: (1.) What will be the increase in population of New Zealand at the end of certain definite periods? (2.) To what extent will the demand for timber increase or decrease in each timber-using trade and industry, including the demand for box timber? (3.) What will be the influence of substitutes for timber on the future demand?

When we turn to the latest issue of the "Statistics of the Dominion of New Zealand" there is nothing given as to the amount of timber used by different trades and industries. All that is available is the cost of materials, of which wood may be the principal or but a minor component, according to the special trade.

From the publication mentioned above the output of the sawmills may be fairly gauged, but so far as posts and rails are concerned their value alone is given, and an exact estimate of this into superficial feet is impossible. So, too, with regard to imports of timber; so far as laths and shingles, undressed logs, palings, and rails go, the number imported of each is the only data available. As for the amount of timber milled from plantations, and the quantity privately cut for posts and other purposes, there is no information of any kind.

Leaving any attempt at approximate exactitude out of consideration, we may reasonably consider that, although there will be a decrease in the use of certain timbers, judging from past and present experiences, there is certain, for a long time to come, judging as before from actual experience, to be an increase in other directions, and that at the very least we may assume that the gain will counterbalance the loss. Opinions have been expressed in evidence given before us that the future will see great strides in the matter of timber substitutes, and that we need not trouble as to our future timber-supply, nor make provision for the future demand. Such reasoning is not legitimate. In making an estimate as to future needs we cannot consider problematical inventions of timber substitutes nor undreamt-of discoveries. All we can do is to consider an extended use of such substitutes as at present exist, and base our conclusions thereon, while at the same time considering the increase of population, with its increasing demand for timber, based on the present consumption, and the probable progressive development of certain industries now on the increase and likely to so continue, such as the dairy and fruit industries, both of which require an ever-increasing supply of timber

We estimate the amount of timber consumed yearly in New Zealand at the present time as being 358,000,000 ft. As seen from what has gone before, there is no reason to assume that the amount consumed per head of the population will decrease. On the contrary, notwithstanding substitutes for timber, the *per capita* consumption in certain countries appears to be on the increase.