

afforested, such as the Auckland gum-lands. On the tea-tree covered land in various places, especially in the Taupo district, *Pinus radiata* has come up freely from seed.

In the "Transactions of the New Zealand Institute," vol. 16, p. 383, A. T. Urquhart gives an account of how certain *Eucalypti* have spread over the gum-lands from seed.

We consider, then, that a series of experiments should be conducted forthwith in regard to sowing *in situ* on ground covered with tea-tree. We suggest a series of experiments such as the following: (1.) A patch of tea-tree to be burned standing, and seed of some hardy gum sown broadcast. (2.) The tea-tree to be felled and burned, and then the seed sown. (3.) Similar experiments to be made with *Pinus radiata* and other pines.

These experiments need only be on a quite small scale; less than an acre would suffice for each experiment. Land of various kinds should be tested, especially pumice soil, gum-land soil, and tussock slopes on hillsides. If these experiments are successful, then the future of forestry on a sound financial basis would be assured; and if they did not succeed, then the small cost of the experiments would be nothing in a large expenditure, and one would know the value of sowing *in situ* in New Zealand once and for all. It must be borne in mind that one success or one failure is no sound criterion as to ultimate success or failure.

7. UNSUITABILITY OF INDIGENOUS TREES FOR AFFORESTATION PURPOSES.

During our investigations we have been frequently urged to recommend the planting of one or other of the indigenous trees. There is, in fact, a general belief throughout New Zealand that the planting of certain kinds, especially the totara and puriri, would be commercially profitable. This idea is altogether erroneous. Without exception, the timber trees are of much slower growth than those used in forestry operations the world over. A full-grown totara may be five hundred years old or upwards. Photo No. 6 shows a cross-section of a totara log which was a seedling at the time of the discovery of America by Columbus. Even English oak, which we consider too slow for forestry purposes, will grow twice as fast as puriri when both are under the same conditions.

This comparatively slow growth of the trees, together with various other reasons that need not be detailed, place the forests of New Zealand in a different category from those of Europe and America, since it is quite out of the question to practise any method of forestry that depends upon their rapid regeneration.

8. ECONOMIC SURVEY OF THE PRIVATE PLANTATIONS OF THE DOMINION.

Both in the introduction to this report and when dealing with the forestry operations of the State we have referred to the great amount of practical information that would be supplied by a searching examination of the private plantations of the Dominion, including those of the various local bodies. The matter needs no further elaboration. We therefore recommend that the Government causes an economic survey to be made of the various plantations throughout the Dominion.

9. PREPARATION OF A BOOK ON FORESTRY.

It has come before our notice, both from evidence and from informal conversations with settlers, that there is a considerable demand for information regarding the trees to plant in any district, the methods of planting, the time to plant, and so on. In 1905 the Government issued a small book on forestry by the late Mr. H. J. Matthews, which met a wide-felt want at the