

*Uses to which the Different Kinds of Trees grown in the State Plantations may be put—continued.*

Name of Tree.	Number planted.	Uses for which the Different Kinds of Trees are suitable.
Podocarpus dacrydioides ..	4,280	Butter-boxes and packing-cases.
„ totara ..	546,500	Telegraph-poles, sleepers, joinery, plates, and all purposes where durability is required.
„ Hallii ..	200	Ditto.
Poplars (var.) ..	20,550	Packing-cases, sides and bottoms of drays, furniture-frames and interior work.
Pseudo-tsuga taxifolia ..	543,597	Beams, general lumber, scaffolding, and all constructive works.
Pyrus aucuparia ..	32,033	Cabinetmaking, furniture, turnery, carving, &c.
Quercus pedunculata ..	2,041,621	House and ship building, wagons, carriages, casks, &c.
„ suber ..	1,124	Produces the cork of commerce.
Robinia pseudo-acacia ..	161,800	Posts, axe and pick handles, and general farm purposes.
Salix (var.) ..	13,663	Cricket-bats, barrow and dray bottoms, knifeboards, bread-platters.
Sequoia gigantea ..	300	Venetian blinds, general carpentry and joinery work.
„ sempervirens ..	186,641	
Sophora tetraptera ..	7,875	Posts, rake-teeth, dowels, and bent-work, and general joinery and interior finishing.
Thuja gigantea ..	14,775	General joinery-work and interior finishing.
Ulmus campestris ..	775	Coffins, coachbuilding, furniture, packing-cases, &c.
Corylus avellana ..	1,310	
Ornamental shrubs ..	69,003	
Leguminous plants ..	59,326	
Total ..	33,092,637	

March, 1909.

H. J. MATTHEWS,  
Chief Forester.

## (B.) ANTICIPATED RESULTS.

At forty years we expect to find that, after successive thinnings, 750 trees to the acre remain. This question of thinning, then, is one that is extremely difficult to give even an approximate estimate of under the climatic conditions regulating the growth of trees in New Zealand. Theoretically, trees are planted at 4 ft. apart. The first thinning leaves them at 8 ft., and the second thinning at 16 ft., at which distance they are allowed to mature. In practice, however, thinning does not represent a geometrical problem, but is solely regulated by the growth made by the individual trees.

Close planting is done in order to exclude the light and air from the lower branches, and cause them to wither and drop off; so that, in thinning, the overhead canopy must always be preserved. It is evident, then, that four or five trees may be left in a clump, while others of less dimensions are removed; and just what number would be taken out at a thinning, and the period when it would be necessary to thin, are the points I wish to emphasize as being difficult to calculate.

For the purpose of this report I have thought it would suffice to work on the assumption that 2,700 are planted per acre in the case of conifers, and 1,200 in the case of eucalypti, and that thinning would be done as per the attached table. These two classes of trees are fairly representative of the bulk of our planting.

The value of thinnings is another difficult matter to estimate, as the market conditions in New Zealand differ so much from those on the Continent. For instance, I do not think we could estimate the value of our thinnings at so much per superficial foot, as there is not the demand for this class of timber. The purposes for which the thinnings could be used are perhaps restricted to fencing-timbers, railway-sleepers, firewood, and scaffolding-poles. Probably we might be able to use the thinnings from larch in the forty-fifth year for telegraph-poles and general construction purposes, but I have classed all the thinnings up to the fiftieth year, in the case of conifers, simply as poles, without taking into consideration the superficial measurement beyond differentiating between small poles and large ones.

In a large measure the Government will require to make their own market until such time as the trees which can be sawn into boards are produced. There will, no doubt, be a demand for fencing-material and mining-timber; but in, roughly, twenty years, at the present rate of planting, the Department will be annually producing something like 4,500,000 poles, which it does not seem possible can all be disposed of to the public. The surplus will need to be used up on Government works, such as fencing railway-lines, railway-sleepers, scaffolding, &c. Of course even on the Continent of Europe the first thinnings are often difficult to dispose of to advantage.

There is no doubt that *Pinus austriaca* is an inferior timber-tree when compared with larch or *Pinus Laricio*, but then the proportion which we are planting of that species, compared with larch