

Scotch pine in central Europe forests is only 3 in. to 4 in. diameter and 29 ft. high at the same age. Thus here, in a climate too cold for it, is kauri growing faster than the ordinary pine-tree of Europe.

At Dargaville (lat. 36°) Mr. Mitchelson showed me a kauri he had planted that at sixteen years from planting was 9 in. in diameter and 32 ft. high. Here is a kauri, in its own climate, with nearly double the growth of the New Plymouth tree, and far beyond all practical comparison with Scotch pine, for the normal for Scotch pine at sixteen years on average-quality soil is 1½ in. diameter and 13 ft. height.

In the Jubilee Park, Dunedin, are two beeches growing side by side, *Fagus fusca* (New Zealand) and *Fagus sylvatica* (Europe). They are the same age, but the New Zealand beech is distinctly larger.

A number of planted trees in the Auckland Domain were systematically measured and described in a paper read before the Auckland Institute in 1887. This showed that for the first twenty years the native trees averaged about 1 ft. in height-growth per year, and about ¼ in. in diameter-growth per year. There the conditions are not so favourable as in the New Plymouth Botanic Gardens: the surroundings are less like the shade and shelter of the native forest, but the growth is still far above the European forest standard. Rimu and kauri, the two important timber-trees of New Zealand, grew the fastest; and at twenty years they averaged 8 in. diameter and 28 ft. high. A Scotch pine on soil of medium quality, in central Europe, at the same age will average 2 in. in diameter and 17 ft. in height (Schlich's "Manual of Forestry," Vol. iii, p. 343). Thus the standard European pine has little more than half the height-growth and exactly one-fourth the thickness of these rimu and kauri trees in the Auckland Domain at the same age.

An interesting list in the Forest Commission Report of 1913 (page 70) gives the following dimensions for various native trees at forty years of age: Kauri and rimu average 9 in. diameter and 50 ft. height; totara and white-pine average 11 in. diameter and 38 ft. height; miro and black-pine average 4½ in. diameter and 27 ft. height. Scotch pine at forty years averages 4½ in. diameter and 38 ft. height, according to the normal-yield tables. Thus at forty years kauri and rimu are far above Scotch pine both in height and diameter growth; totara and white-pine are above the diameter-growth and equal in height-growth; miro and black-pine are lower in height-growth and show the same diameter-growth.

Cheeseman has made elaborate investigations on the growth of kauri. His general result is 9.7 rings per inch of radius: Kirk's figure is 10. These results are about double the average of the five