

Table showing, approximately, the Average Height of the Trees in Whakarewarewa Plantation.

Name of Tree.	Year of Planting.	Average Height.	Name of Tree.	Year of Planting.	Average Height.
		Ft.			Ft.
<i>Larix europaea</i> ..	1901-2	36	<i>Picea excelsa</i> ..	1906-7	4
<i>Pinus austriaca</i> ..	1901-2	22	„ <i>sitchensis</i> ..	1906-7	4
„ <i>Laricio</i> ..	1900-1	28	<i>Alnus glutinosa</i> ..	1904-5	23
„ <i>ponderosa</i> ..	1908-9	5	<i>Acer pseudo-platanus</i> ..	1900-1	20
„ <i>radiata</i> ..	1905-6	35	<i>Acacia melanoxylon</i> ..	1905-6	12
„ <i>taeda</i> ..	1906-7	17	<i>Juniperus virginiana</i> ..	1906-7	6
„ <i>densiflora</i> ..	1906-7	9	<i>Eucalyptus Stuartiana</i> ..	1903-4	34
„ <i>Thunbergii</i> ..	1906-7	8	„ <i>pauciflora</i> ..	1902-3	25
„ <i>Murrayana</i> ..	1908-9	8	„ <i>amygdalina</i> ..	1903-4	28
„ <i>muricata</i> ..	1905-6	22	„ <i>amygdalina</i> , var. <i>regnans</i>	1899-1900	35
„ <i>Sabiniana</i> ..	1906-7	8	„ <i>Sieberiana</i> ..	1899-1900	32
„ <i>Torreyana</i> ..	1905-6	7	„ <i>obliqua</i> ..	1899-1900	30
<i>Pseudo-tsuga Douglasii</i> ..	1905-6	10	„ <i>Gunnii</i> ..	1905-6	12
„ ..	1907-8	6			
<i>Sequoia sempervirens</i> ..	1901-2	23			

REPORT ON AFFORESTATION OPERATIONS IN SOUTH ISLAND.

[By the Superintending Nurseryman, Tapanui.]

CLIMATIC CONDITIONS AND TREE-GROWTH.

Considering the unfavourable conditions under which our afforestation labours had to be conducted during the past season, the result is highly satisfactory. The position of affairs at one period was decidedly unpromising, nor did it appear possible to apply any remedy that might successfully combat the ill effects of prolonged rainfalls. To some extent this bounteous moisture caused an impetus to tree-growing in Central Otago; but the more southern tree-raising station at Tapanui, where the precipitation is usually slightly in excess of requirements, appeared to suffer greatly from the sluggish rise of sap caused by the dearth of sunshine. At Hanmer Springs nearly 23 in. of rain were distributed over the four months ending December, and undoubtedly the occasional spells of warm weather intervening during this critical period for seedlings were responsible for the young plants retaining their sturdiness. As revealed in the detailed plantation reports appended hereto, vigorous growth is general amongst established trees, nor has the invasion of any dreaded disease caused uneasiness to officers concerned. The untimely shedding of larch-needles, so conspicuous at Dusky Hill Plantation last season, and which was subsequently attributed by the Biologist of the Agricultural Department to the existence to a partial drought, made its reappearance in a much milder form this year, and hopes are entertained for the almost immediate recovery of the trees. Whilst touching on the subject, perhaps it will not be out of place to lightly direct the attention of those responsible to the plantations adjoining and running parallel to the railway-line in Canterbury. Premature decay appears to be speedily overtaking *Larix europaea*, and the unhealthy tone conspicuous throughout other blocks of associated trees has, to the writer's knowledge, often been commented upon by travellers.

The development of trees growing on dredged tailings at Waitahuna is being watched with much interest, and the result of our experiments there justifies the opinion previously formed that these gorse-clad unsightly areas may be rapidly converted into valuable plantations.

RAISING OF SEEDLINGS, AND EXPENDITURE INCURRED.

The introductory allusion to the adverse meteorological influences will be ample explanation for the decided decrease in the number of seedlings raised. Notwithstanding a greater quantity of seed being sown, only 3,984,250 plants eventuated, or an estimate of considerably over a million below last year's figures. The actual expenditure attached to the purchase of seed, and subsequent labour in raising the plants up to the yearling stage, reached 2s. 3½d. per thousand, an estimate slightly more favourable than recorded in the previous season, principally owing to better returns from Central Otago.

Some 28,947,547 trees have been grown since the initiation of afforestation work in the South Island, and it might be interesting to mention that this calculation is based solely on the actual output of trees and present stock, which entirely dispenses with any reasonable grounds for unfavourable criticism of our system of tabulating statistics. Fluctuations in the actual costs of various branches of our labour is inseparable from an undertaking so influenced by seed-quality, weather, increases in wages, &c., and the estimated average cost connected with raising two- and three-year-old trees up to the transporting stage has advanced this year to £1 15s. 4d. per thousand.