

NASEBY PLANTATION, CENTRAL OTAGO.

(Area, 2,850 acres; altitude, 2,450 ft.; commenced operations, 1900.)

(J. Graham, Acting Plantation Foreman.)

The rainfall for the past season shows little improvement on that of the preceding one, which was the driest on record. Although the dry weather suits the growth of many of those trees which have become established for a number of years, the smaller recently planted ones show signs of growth having been retarded, while this season's planting shows a fairly heavy death-rate. The dry period experienced during the months of December and January badly affected many of the younger transplants, which up till that time were making very good progress and giving every promise of a successful "strike." As an indication of the exceptional dryness of the season it may be mentioned that creeks and springs that were never known to fail since the commencement of operations here have this year dried up completely.

Pinus radiata seems to have suffered rather more severely than other pines, but this is natural with this soft-needled species, which seems unable to endure the excessive transpiration which they were evidently called upon to withstand. *Pinus ponderosa*, *P. Laricio*, and *P. austriaca*, being of a hardier nature, have not suffered to the same extent, but still there is a fairly large death-rate among these also. Taking the plantation right through, the advancement made by the various trees has been very good, and their vertical growth in the established blocks is well above the average. Prominent amongst the older trees is that of *Pinus Laricio*, while *P. ponderosa*, a tree which usually shows the best results, comes next. This refers chiefly to the variety known as the large-seeded *ponderosa*, which stands out distinctly as the one we should endeavour to obtain in the future. A comparison between the two varieties shows an advantage of 100 per cent. or more in the growth of the large-seeded, and where they are planted together one would say there was a difference of three to four years in their respective ages. Another feature worthy of notice is that of the abnormal growth, comparatively speaking, of several species which were given an additional year in nursery-lines before being transferred to plantation. These have been planted in strips between trees of a year younger; but the progress made strikes one as being out of all proportion to the difference in age, while at the same time hardly one replant was necessary. The question is, with such a practical demonstration of the advantage of planting an older tree, would it not pay to retain certain species for an additional year in nursery-lines? This refers mainly to the two species *Pinus ponderosa* and *P. Laricio*. *Pinus radiata* is, of course, too fast-growing to apply this system to, but the idea seems worthy of consideration if a further experiment proved consistent with the above observation.

Larch has made rather inconsistent progress, the older-established trees showing signs of what appears to be the disease known as "needle-cast"; but the younger trees in the recently planted area look healthy, and have made as much as 2 ft. to 3 ft. of growth. They are, however, patchy. The planting of poplars for the purpose of forming fringes to fire-breaks has resulted in failure, fully 90 per cent. having died. Although they do well in the district generally, there is evidently something in the soil of this plantation which is unsuitable to their growth. They will be tried in cultivated ground this coming season as a final test, but they have failed under all conditions so far, whether planted in wet or dry soils.

The number of trees planted for the season was 322,950, of which 316,100 have been planted on new area covering about 130 acres, and 6,850 were used for replanting blanks.

Contract pitting has been carried on, and some 430,000 pits are now available for the coming season's planting.

All fire-breaks have been kept in order, and the ever-increasing work of breaking up new ones has been gone on with and practically completed for the season. It will be necessary to remove the division-fence between the newly planted area and the pitted area and re-erect this on the south-western boundary, which work will be undertaken during the coming winter.

The total expenditure for the year was £1,003 17s. 8d., and the total to date £10,943 6s. 8d. Employment was given to an average of 4.7 men.

Rainfall, Temperature, &c.

Month.				Rainfall.	Number of Days Rain fell.	Temperature.		Number of Days Frosts occurred.
						Maximum.	Minimum.	
1916.				In.		Deg. F.	Deg. F.	
April	..	..	..	2.05	8	72	27	14
May	..	..	..	2.00	11	62	19	23
June	..	..	..	2.62	9	64	20	18
July	..	..	..	1.96	11	54	16	29
August	..	..	..	1.59	10	60	19	29
September	..	..	..	1.83	6	68	22	6
October	..	..	..	1.91	8	68	22	19
November	..	..	..	2.67	14	77	28	9
December	..	..	..	0.63	7	84	30	1
1917.								
January	..	..	..	0.58	8	89	28	2
February	..	..	..	2.27	9	86	28	4
March	..	..	..	1.68	6	81	26	3
Totals				21.79	107	..	..	157