

TAPANUI NURSERY, OTAGO.

(Area, 173 acres; altitude, 500 ft.; established, 1897.)

(A. S. Jenkins, Acting-Foreman.)

The conditions for raising seedlings here this season have been all that could be desired. The rainfall, 31·74 in. on 144 days, was quite sufficient for requirements, whilst the extremely mild autumn and winter favoured the late development of all young trees. The absence of continued high winds so prevalent in September was also marked, and altogether the general success attending propagation-work equals that of our most favourable seasons.

Raising of Seedlings.—Seed-sowing was conducted under normal conditions, and some 2,767,000 sturdy plants have resulted from operating with a slightly increased weight of seed. Perhaps the excellent crops of 1,500,000 *Pinus Laricio* and 700,000 *Pinus radiata* are the outstanding features of the sowing, but almost without exception all varieties sown came up to expectations, and it is safe to assert that the quality of the seed used has rarely been better. Experimental work with the eucalypts was continued, and we now possess information that should simplify the hardening-off of the gums sufficiently to permit of a reasonable measure of success resulting from their planting in this somewhat severe climate. The demand from farmers for the favourite shelter-tree—*Cupressus macrocarpa*—should be more than met next year, when the 65,000 seedlings will reach a desired size for permanent planting. A fine bed of Douglas fir of the desired type, containing about 60,000 plants, resulted from a sowing of 20 lb. of seed. Detailed on the associated schedule are the estimated numbers of seedlings raised.

Transplanted Trees.—The unusually large number of 1,701,600 one- and two-year-old trees were transplanted into lines from beds. A good growing percentage eventuated, and probably slightly over a million trees will be sufficiently advanced for permanent planting during the coming winter. Much success attended the lining-out of *Pinus radiata*, although the late summer development of these trees has been too vigorous, and the dry weather forbade the safe adoption of wrenching as a retarding measure. Partial failure, however, is noticeable amongst the *Pinus muricata* and *Cupressus macrocarpa* breaks, and this can only be attributed to the drying winds experienced shortly after they were transplanted. The demand from settlers for poplars influenced the extended propagation of the two varieties *Populus fastigiata* and *P. deltoides*, and some 17,500 cuttings were prepared, resulting in an excellent growing percentage.

Horse-feed.—About 30 acres were used in producing sufficient fodder for the horses engaged at local stations. Owing to the amount of hand labour required to grow carrots it was decided to substitute swede turnips, which winter feed is equally relished by the live-stock, and certainly the condition of the animals is unchanged. Some 8 acres was put down in rye and clover, whilst an area similarly dealt with two years ago was turned into a grazing-paddock. As some of the nursery paddocks are showing signs of running out, it will be necessary to resow them during the coming spring. A small stack of sheaf was threshed and realized 80 sacks of oats, the operation also providing an abundant supply of straw for packing purposes.

General.—The unsatisfactory state of our water-supply made it necessary to construct a small reservoir in such a position as to provide a greater pressure. The service is now all that could be desired, as apart from the better pressure the water is purer. For some months difficulty has been experienced in securing suitable labour for the nursery-work, and the idea of employing schoolboys on Saturdays for certain phases of the work has been entirely successful. The usual maintenance-work was carried on, and the buildings, stores, fences, &c., are in good order.

Expenditure for the year amounted to £1,715 Os. 7d.

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	..	..	..	1·54	13	75	29	4
May	..	..	..	2·98	12	69	24	13
June	..	..	..	2·32	9	64	22	10
July	..	..	..	1·90	9	56	18	20
August	..	..	..	3·05	11	63	25	20
September	..	..	..	2·62	14	71	27	6
October	..	..	..	2·30	14	74	26	8
November	..	..	..	3·18	17	79	31	1
December	..	..	..	0·64	5	86	34	..
1917.								
January	..	..	..	2·42	10	93	34	..
February	..	..	..	5·53	18	85	34	..
March	..	..	..	3·26	12	81	29	2
Totals	..	..	..	31·74	144	..	..	84