

England, and carefully planted out: *Populus Eugenioi*, *P. tremula*, *P. alba*, *P. canescens*, *P. nigra*, *P. monilifera*, *P. angulata*, *P. regenerata*, *P. robusta*, *P. Petrowskyana*, *P. serotina*, *P. Maximowiczii*. The cuttings arrived somewhat late in the season, but were in good condition, and were freely producing rootlets throughout their length. Every care will be devoted to the wintering of the trees, although, should early frosts occur, a certain proportion of failure must be calculated upon. Similar treatment regarding stooling-ground and distribution to that outlined for willow-growing will be adopted in this case.

#### TRIAL PLANTATIONS AT GALLOWAY AND OMARAMA.

The importance of securing data relative to the suitability of certain arid localities for the growth of trees of commercial value was strongly emphasized in last report, and in adherence to the departmental decision experiments on a comparatively small though sufficiently extensive scale for the purpose were undertaken at both Galloway and Omarama, Otago, with widely differing results. The tests were based upon official knowledge blended with criticisms and suggestions received from local tree-planting enthusiasts; and, although a recent personal inspection of each plot has been impossible, information has been received to the effect that the experiments have been of much educational value, and will surely tend to simplify future management when undertaking such work on a large scale.

*Galloway Plantation.*—About 1,000 acres were reserved for afforestation purposes from the recently subdivided Galloway Run, and an enclosure of 2½ acres, consisting of a uniform undulating surface, made for tree-testing purposes. Some 3,880 trees of the following—*Pinus Laricio*, *P. ponderosa*, *P. austriaca*, *P. radiata*, *P. muricata*, *P. Taeda*, *P. patula*, *P. Banksiana*, *P. sylvestris*, *P. Montezumae*, *Cupressus macrocarpa*, *Larix leptolepis*, *Populus deltoides*, *P. fastigiata*, and *Eucalyptus* varieties—from Ranfurly and Tapanui nurseries, were secured and planted under fair conditions. An inspection of the plantation by the late Under-Secretary and myself some two months after planting revealed a highly satisfactory state of affairs; but subsequently a succession of strong north-westerns and a complete absence of rainfall for nearly two months has demonstrated the extent of failure that might be expected when operating upon such arid, wind-swept country during particularly dry seasons. Nor can the aridity and exposure be solely responsible for the partial failure, as on preparing the pits for the reception of trees it was discovered that the ground was infested with a grub resembling the well-known destructive grass-grub, but which, although closely allied to the genus *Odontria*, proved to be *Lewisiella modesta*, a recently discovered species. It is more than likely that in the absence of vegetation on the almost bare hillside and valley where the test is being conducted the grubs have eaten with avidity the tender tree-rootlets, a conclusion that will surely influence any future extensive planting in situations where the pest abounds. It might also be interesting to allude to the cement-like substratum that was frequently necessary to pierce in sinking post-holes and preparation of planting-holes. The result of the experiment, upon which £59 9s. 10d. was spent, will not be considered final, and during the coming spring the area will be filled up with specially robust *Pinus ponderosa* and *P. Laricio*, the two varieties now showing to most advantage.

*Omarama Plantation.*—A precisely similar test to the above one was conducted at Omarama, where 6,230 acres were earmarked for tree-planting during the recent subdivision of the run. Fortunately heavy rainfall with more frequent precipitations was experienced here than in the Kurov district, and the result of the experiment indicates that little difficulty will be experienced in establishing forests of fast-growing exotic trees in the locality. Moreover, the nature of the surface, over which no preliminary clearance is essential, permits rapid ground-preparation. Of the trees planted, as per schedules shown hereafter, pronounced success has been obtained with the *Pinus ponderosa*, *P. Laricio*, *P. austriaca*, *P. muricata*, *P. radiata*; whilst, contrary to expectations, poplars, larch, and gums, after showing much promise even as late as November, failed to survive the dryness of the following two months. There can be no doubt, however, that poplars will thrive under the existing conditions, and a further test of this and other trees will accordingly be conducted during the current year. An expenditure of £51 2s. 6d. was devoted to this experimental plot.

#### MILLING OF SELWYN PLANTATIONS.

Perhaps the inclusion herewith of condensed information relating to the milling operations, &c., conducted by the Selwyn Plantation Board, to which body I act as adviser, will prove of general interest to those contemplating similar work in the Canterbury Province. During the currency of an unusually severe north-westerly gale in October, 1914, several of the Board's plantations were practically ruined, and efforts have been directed principally this season in lessening the financial loss thereby incurred by judiciously converting the uprooted and broken timber into suitable sizes for building and other useful purposes. Some 328,450 superficial feet of timber was milled from the *Pinus radiata* logs. Owing to the haulage difficulties consequent upon irregular falling, heavy branching tops, &c., the cost of conversion by contract reached an average of 9s. 6d. per 100 superficial feet, a figure somewhat in excess of anticipations. The building material in all required sizes is sold at 12s. per 100 superficial feet, thus leaving only a small margin of profit. It is likely, however, that if logs were railed direct to the city mills for conversion the proposition would be more financially sound. The demand for this rough pine timber for building purposes, however, is insufficient at the present moment to merit the wholesale milling of plantations that can reasonably be allowed to stand awhile, and undoubtedly the best use to which timber from badly grown trees can be put is case-making, construction of outbuildings, &c. Throughout Canterbury well-seasoned *Pinus radiata* timber is now being used to some extent in the construction of dwellings; but it is improbable that our highly esteemed indigenous woods will be superseded for many years by this fast-growing exotic pine, which is now receiving so much attention from the State and private planters generally. The rougher portions and tops of pine logs were split into firewood by contract at 8s. per cord, of which some 250 cords were disposed at a total profit of £12 10s. Although not in keen demand for fuel