

disease. Larch planted during the past season have put on a vertical growth of 10 in., and established trees from  $7\frac{1}{2}$  ft. to  $4\frac{1}{2}$  ft. The newly planted pines have also done well, a vertical growth of from 4 in. to 6 in. being common. In the established plantations *Pinus Laricio* has outclassed all others, and is eminently suited to this district, the average growth for the year being 10 in. to 18 in. Other varieties have also done extremely well; but such cannot be said of Douglas fir and Menzies spruce, these two species having made poor headway.

The percentage of deaths in the past year's planting is very small, and very little filling-in will be required. A large area of the previous season's planting will, however, require attention in this matter, as the deaths have not yet been replaced.

Tree-planting was commenced on the 9th May and completed on the 8th September. A total of 965,080 trees was dealt with. The replanting of failures in former years' planting absorbed 234,575 trees, and the remainder—730,505—were planted on new area. Of the latter, a total of 299,900 was planted by contract at a cost of 7s. 6d. per 1,000, and the remainder by prison labour. The method of planting by contract proved most successful, being cheaper and more expeditious than by day-labour, thus enabling planting to be completed earlier in the season, and allowing the trees to establish themselves before the drying winds of spring set in. An area of 268 acres was planted during the year, containing 730,505 trees; making a total area of  $1,720\frac{1}{2}$  acres now under forest, containing 4,682,456 trees.

A length of 168 chains of old fencing was dismantled and re-erected around the remainder of the newly acquired area, and about 30 chains of new fence was also erected, making a total length of 194 chains completed. This work was done partly by free and partly by prison labour.

*Free Labour.*—An average of five men were employed on contract work, and 4.58 on day-labour.

*Pitting.*—This was purely contract work, the number opened for the year being 449,191, costing 15s. per thousand.

*Tree-planting.*—This work was also done by contract, the operation being performed in a very satisfactory manner at a cost of 7s. 6d. per thousand; 299,900 trees were dealt with in this manner.

*Clearing.*—All clearing was carried on by prison labour only.

*Cartage of Trees.*—A total of 965,080 trees were carted to the plantation trenches, at a total cost of £18 17s. 7d.

*General Upkeep of Plantation.*—The total labour-cost of this work was £412 2s. 4d., of which the greater part was expended in the replanting of failures, and pruning and cutting-out of double leaders among larch and pines. The areas dealt with will not again require attention in the matter of replanting; but pruning will probably be necessary again in a few years' time.

The destruction of noxious weeds, such as gorse and briar, entailed considerable labour; a good deal of attention was also necessary in clearing foreign growth from around young trees. All culverts and roads were kept in proper repair. About six miles of fire-breaks were kept clear of all inflammable growth by ploughing and disking. Pests in the form of rabbits and hares were kept well in check by gun and dogs.

*Horse-feed.*—This work consisted in the preparation of the ground for sowing crop, sowing of oats, and harvesting operations.

*Fencing.*—The chief item under this heading was the erection of 194 chains of new fencing enclosing the remainder of the area set aside for plantation purposes. Material from the old boundary-fence was used, but was not quite sufficient to complete the enclosure, a quantity of new material being purchased for this purpose. The work was carried out in a satisfactory manner.

*Formation.*—The construction of culverts was responsible for the greater part of the expenditure under this heading, some very substantial structures being built. The approaches to these culverts entailed considerable labour; but the proper formation of the crossings was absolutely necessary to allow of the distribution of trees to the plantations.

The drainage of swamp-areas was also taken in hand, a total length of about 138 chains of ditch being opened. The formation of about 30 chains of new road was necessary. One mile of new fire-break was ploughed for the first time.

*Buildings.*—A substantial hut for the storage of tools was erected at the prison camp, at a labour-cost of £5 14s. 3d. This structure meets all requirements.

The presence of red deer in the plantation was discovered recently, a few trees being barked by them.

The birch green-fly (*Aphis betuli*), which did so much damage to the foliage of *Betula alba* last summer, has not made its appearance this year; this may be accounted for by the moist summer experienced, as compared with last year.

The pine white-aphis (*Chermes laricio*) is still in evidence, but is chiefly confined to Austrian pine. No damage of any consequence appears to have been done, as the trees appear to shake off the disease in a few years, except in the case of very badly infected trees; but these latter are very few in number.

*Prison Labour.*—The number of prisoners available for forestry-work during the past year was double that of the previous year, the daily average employed being 14.3. The usual excellent standard of work was maintained.

Each prisoner's work for the year is valued at £68 16s. 5d., and the total value of all works performed for the year is £992 14s. 1d., details of which are as follows: Tree-planting (430,605 trees), £212 4s. 7d.; pitting (564,863 pits), £434 0s. 1d.; clearing (190 acres), £234 5s. 11d.; general upkeep, £77 12s. 9d.; horse-feed, harvesting, £3 9s. 3d.; fencing (dismantling 58 chains and erecting  $64\frac{1}{2}$  chains), £25; formation (forming culverts, roads, &c.), £6 1s. 6d.

Statements of values and expenditure are appended.