

## KAINGAROA PLAINS PLANTATION.

During the past year the area of this plantation has been increased by 624 acres, making a total of 1,166 acres planted to date. Trees to the number of 1,658,675 were planted—1,566,175 on a new area, and the balance (92,500) used to replace failures in the former year's work. The drought has been keenly felt here, there being about 30 per cent. of failures amongst the trees planted during the year. The principal species planted was *Pinus Laricio*, which generally has been most successful here, but owing to the very dry conditions prevailing from August to February the young trees never really had a chance to pick up after transplanting. An experimental planting of eucalypts, consisting of 8,500 trees, in ten species, was made, but these failed absolutely, possibly owing to the drought; but it is probable that only the hardiest kinds will succeed here. The small nursery which was started last spring has proved to be an excellent idea. Between 800,000 and 900,000 small seedling *Pinus ponderosa* were lined out, and have made very satisfactory growth. The weeding of these has been done by a few of the prisoners during broken weather, when the plantation-work could not be undertaken, and consequently it has been unnecessary to employ extra men for the purpose. A further considerable saving has been effected in the carting of these trees, for whereas the whole of the seedlings were carted from Rotorua in two loads, with the extra growth made they would now make from eight to ten wagon-loads. It is proposed to extend this system very considerably, and for this purpose an area of 20 acres is now in course of preparation. Provision will thus be made for lining out all the trees required here a season ahead of the actual planting, the seedlings being supplied from the nursery at Rotorua.

The subdividing of the land set apart for afforestation into blocks of about 300 acres has progressed very well, and there is now sufficient land dealt with to enable the planting to proceed for the next two years. The survey-work will be continued until the whole reserve of 33,355 acres is completed, and a detailed plan of the whole prepared. At the present time the fire-breaks are being left 4 chains wide. It is proposed to leave a permanent fire-break 2 chains in width, and plant up the remaining 2 chains with a deciduous tree which will not readily carry fire. A tree to fulfil these conditions is difficult to select, owing to the prevalence of frosts during the spring and summer months. Poplars, which would be excellent for the purpose, are most susceptible to these unseasonable frosts, and most other deciduous trees are equally so. It is thought that this difficulty might be overcome by planting a mixture, or by underplanting, and an experiment in this direction will be made on a small scale next winter by planting one of the fire-breaks with a mixture of larch and sweet-chestnut. If the chestnut proves suitable the larch can be cut out as soon as the chestnut becomes thoroughly established.

The prison labour performed work to the value of £1,676 8s. 8d. during the year.

The number of pits available for tree-planting during the coming winter is 2,000,000. The principal species to be planted are *Pinus ponderosa*, *Pinus radiata*, and Douglas fir.

About 100 acres of land surrounding the prison camp has been reserved for paddocks and for nursery purposes, and it is proposed to gradually increase the fertility of this by a rotation of crops. With this in view, a portion of the area now under grass will be ploughed and sown with oats, which crop will be followed with a sowing of grass and clovers. It is hoped that by this method the land will gradually be brought into good condition for nursery purposes, and at the same time supply the wants of the station as regards grazing, &c.

The average number of men employed was as follows: Free men, 3·77; prisoners, 17·45.

A record of rainfall and temperature for the year is attached.

| Month.            | Rainfall. | Number of Days Rain fell. | Temperature. |          | Number of Days Frosts occurred. |
|-------------------|-----------|---------------------------|--------------|----------|---------------------------------|
|                   |           |                           | Maximum.     | Minimum. |                                 |
| 1914.             |           |                           |              |          |                                 |
|                   | In.       |                           | Deg. F.      | Deg. F.  |                                 |
| April .. .. .     | 6·02      | 18                        | 68           | 30       | 4                               |
| May .. .. .       | 3·17      | 15                        | 63           | 27       | 9                               |
| June .. .. .      | 2·40      | 11                        | 58           | 24       | 17                              |
| July .. .. .      | 3·67      | 17                        | 58           | 19       | 21                              |
| August .. .. .    | 0·56      | 7                         | 59           | 23       | 16                              |
| September .. .. . | 2·17      | 11                        | 67           | 24       | 13                              |
| October .. .. .   | 1·16      | 5                         | 76           | 28       | 9                               |
| November .. .. .  | 1·35      | 10                        | 75           | 25       | 2                               |
| December .. .. .  | 1·96      | 10                        | 81           | 31       | 3                               |
| 1915.             |           |                           |              |          |                                 |
| January .. .. .   | 2·00      | 9                         | 88           | 35       | ..                              |
| February .. .. .  | 0·60      | 6                         | 80           | 31       | 1                               |
| March .. .. .     | 4·58      | 11                        | 78           | 31       | 1                               |
| Totals .. .. .    | 29·64     | 130                       | ..           | ..       | 96                              |

## Summary showing Area of Kaingaroa Plains Plantation (1,166·48 Acres in Trees).

| How occupied.                            |    |    |    | Acres.    |
|------------------------------------------|----|----|----|-----------|
| Pines .. .. .                            | .. | .. | .. | 1,153·34  |
| Eucalypti .. .. .                        | .. | .. | .. | 13·14     |
| Fire-breaks (not yet calculated) .. .. . | .. | .. | .. | ..        |
| Unplanted land .. .. .                   | .. | .. | .. | 32,188·52 |
|                                          |    |    |    | 33,355·00 |