

DECIDUOUS TREES.

On deciduous trees little comment is necessary, as mistakes can scarcely be made. All genera, species, and varieties, such as oaks, elms, chestnuts, lindens, planes, &c., should do well in both North and South Islands.

GOVERNMENT PLANTATIONS.

For such plantations in Otago, or in the pumice districts of the North Island, I should recommend areas of from 10,000 to 20,000 acres. The blocks should be laid off in squares, with roadways or fire-breaks running through and crossing each other, so as to form 500-acre sections. These fire-breaks should be at least 1 chain wide. Intersecting roads, or fire-breaks, round each 500 acres should be $1\frac{1}{2}$ chains wide, and broad roadways of 2 chains should intersect at right angles, so as to bisect the entire plantation from north to south and east to west. These serve the double purpose of providing means of access for thinning and removing timber, and of fire-breaks, especially effective in the latter capacity if furrows are ploughed along each side of the track and grass, &c., burnt off in between.

The plantation being thus marked out on a working-plan, the officer should, according to the quality and disposition of the soil, allot trees to suit each particular section. Then should follow the holeing or ploughing of the sections. Some advocate ploughing as a matter of economy. Economy is good, but this, in my opinion, is false economy, and hence in Victoria I never plough. Gangs of men are set to work in the winter months, and holes put in 15 in. wide to same depth, 8 ft. apart, in which the trees are planted. Ploughing encourages trees, especially those of a surface-root habit, to run their roots along the pan of the furrows, instead of making into the clay subsoil. Further, ploughing involves hand-sowing the seed, resulting in unsightly and uneven growth. For these reasons I much prefer the holeing system. The men are paid 6s. 6d. per day, wet or dry, and work is continued on wet days, because those are the best times for planting. The holeing system, moreover, gives uniformity of growth and of distance between the trees, with greater facilities for thinning later on. An experienced superintendent or nurseryman is in charge, and every care is taken to see that the roots of young trees are never exposed to dry or cold winds or to the sun. Also, that every tree, before being planted in the hole, is carefully puddled at the roots.* I strongly recommend that this precaution should never be omitted. In the case of private holders, the system could be modified, so as to come more in line with small holdings.

OBJECTIONS TO BLUE-GUM.

I was much surprised to learn at Christchurch that the blue-gum was not regarded as a durable timber. This is remarkable, as in Victoria, Tasmania, and elsewhere blue-gum has an excellent reputation for strength, elasticity, and lasting properties. The New Zealand opinion is probably due to the fact that the timber has been taken from trees not fully matured, or grown in unsuitable localities. At Reefton I saw a blue-gum which had been felled at that town on the day of my arrival. I traced it next day to a local sawmill, and examined the log, which was 3 ft. in diameter at the butt, and as sound, solid, and heavy as any I have seen in Victoria or Tasmania. This tree was twenty years old.

IN CONCLUSION.

In concluding my remarks upon tree-plantation in Canterbury and Otago, I desire to express my high admiration of the manner in which the early settlers went to work and clothed with trees the open country for miles around their city of the plains—Christchurch. But I could not help remarking that while the pioneers of the district so nobly did their duty by the community, yet in so large and handsome a city as Christchurch such apathy exists as to the state of the Botanic Gardens. This is decidedly not creditable to such a city. The curator no doubt does his best with the funds at his disposal, but it is a reflection on the authorities, and represents neglect of a manifest duty to the community, that the funds provided are totally inadequate to permit of these fine gardens being properly kept. Christchurch is famed for its University and Museum, the latter especially well found and under most efficient direction; but the gardens are very far from being such as one might expect in close proximity to one of the chief cities of New Zealand.

With a river like the Avon—"A thing of beauty and a joy for ever"—at hand, the landscape gardener and arboriculturist should have a chance to immortalise himself in the beauty of floral colour and design, but here he has not. The curator is not to blame; but when a man is stinted in money and consequently labour, and has to work so large an area of ground, he cannot produce satisfactory results. The people of Christchurch should wake up, and provide sufficient funds to bring their Botanic Gardens more into line with their splendid Museum and other public institutions.

TREE-PLANTING ON THE PUMICE PLAINS OF WAIMARINO, TONGARIRO, LAKE TAUPO, AND THE UPPER WAIKATO RIVER.

The volcanic regions of the North Island are an interesting study to both forester and geologist. This strange land is invested, owing to violent upheavals at various periods, with a mysticism which as time rolls on only intensifies the curiosity of the inquirer, and spurs him to renewed efforts at unravelling the secrets of Nature under novel and awe-inspiring conditions. These pumice plains are much more extensive than is generally supposed. They commence from a point six miles south of Ruapehu—the country here including three partially active volcanoes—Ruapehu, Ngauruhoe, and Tongariro—which occupy a commanding position in the centre, whence the pumice plains radiate to distances varying from eight to twenty-five miles, the southern portion being known as Waimarino. The areas of these plains have been determined by the varying force of different eruptions, distributing pumice sand and mud to greater or less degree in distance and quantity.

* That is, dipped in mud and water made of the consistency of soup, &c.