

garded as beneficial in that they provide some additional humus matter, protect the surface of the soil and conserve moisture.

Digging with a spade should be avoided because most of the native trees are very superficially rooted.

Nurse plants may consist of such species as common broom, tree lucerne, lacebark, rangiora, or mahoe. Some valuable recent research work conducted by an Otago botanist has proved that mahoe is a very fine soil-improver and a counteractant of acid conditions. The addition of this tree is likely to prove very beneficial in the plantation.

The first year calls for the most work. Grass which tries to re-assert itself should receive constant attention; drying winds may cause a need to water, and other difficulties occur.

In the second year the nurse plants begin to be helpful. In the third year establishment will usually be assured and a minimum of effort will be required.

After that the nurse plants will become more or less over-competitive to some of the trees required as permanents. A judicious cutting back and finally cutting out of nurse plants will then be the procedure for some years. However, it is always advisable to rather under-do than overdo these operations at all times; otherwise grass will again become a hindrance to other growths.

A Simpler Method on Grasslands.

Similar results to the foregoing can be obtained in a manner by following nature's way. In the preceding comments nature's methods are expedited, but they are more or less reversed in that the permanents and the "nurses" are planted at the same time. This simpler, but rather slower, method is to fence out all mammals, then plant the area with tree-lucerne

(tegasaste), spacing these 12 feet apart. They will grow amongst grass and almost anywhere, except where saity winds are frequent.

In three years they will overcome and eradicate the grass and form a beautiful seed bed. Now broadcast seed. Those seeds will germinate which are likely to establish trees. Under-lop the lucerne trees when necessary, leaving all litter on the ground; in fact, a good maxim for all efforts to establish native plantations is: "never tidy up." Finally the lucernes are cut out, and an overdense population of natives remains. Thin them out as necessity requires, or leave it to nature. She will do it.

When an Area is Already Plant-covered.

The area which it is desired to convert into bush may, however, have considerable plant growth on it such as titree, tauhinu, broom, fern, tutu and other natives like rangiora. This condition is only too often dubbed as rubbish-covered, which is quite a wrong conception of the position. That mistaken notion comes from the fact that the land is unsuitable as it stands for grazing purposes. As a matter of fact it is in that state which is nature's initial attempt to re-establish her forest; if fire and mammals were totally excluded, she would succeed.

The so-called rubbish consists of the necessary initial nurse plants. Where these conditions exist the aim should be to help nature by planting suitable trees in small cleared pockets. Horticulturists, usually imbued with the "tidy garden" idea, are often guilty of clearing an area in the so-called rubbish stage and then planting. Much unnecessary work follows as a natural sequence; the growth of the trees is much retarded. Indeed, as the writer has frequently seen, grass becomes dominant, and total failure results.

PRIZES FOR NATURE-STUDY PHOTOGRAPHS

To encourage the photographing of scenes depicting wild life, natural forests, or the ruin caused by forest destruction, the Forest and Bird Protection Society is offering prizes of £2, £1, and 10/- for the best photographs received not later than 1st April, 1940.

Photographs of birds in captivity are not eligible.

The winning photographs, with the names of the prize-winners, will be published. Awards of 5/- each will be made to other competitors whose photographs are deemed worthy of publication.

Any competitor may enter any number of photographs.

The competitor's name and address and the title must be written on the back of each photograph, which must be a glossy print to facilitate reproduction. All entries become the property of the Forest & Bird Protection Society.

The judge will be Mr. G. C. Clarke, Process Expert. Entries should be addressed to Forest & Bird, Box 631, G.P.O., Wellington.