



Two adjoining properties in Poverty Bay, showing manuka extending to the boundary fence. The foreground was ploughed, cropped and regrassed. Note the ingress of rushes in place of manuka because of increased fertility.

Farmers' Fight Against Scrub

Methods of Controlling Manuka, Tauhinu, Bracken Fern and Hard Fern

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MANUKA, tauhinu, bracken fern and hard fern are some of Nature's earlier volunteer plant forms in the natural succession of plant species back to natural forests from the artificial pastures placed there by man.

There are in the Dominion several million acres in scrub of one form or another, much of which has reverted from sown pastures. Huge sums of money are spent annually in a continual and often vain struggle to keep such growth in check.

On unploughable hill country the difficulties are many, and mistakes, once made, are not readily rectified. In any effort at control it is essential to have a knowledge of the growth-forms and life-histories of the plants and their relation to local conditions if the most effective measure of control is to be obtained.

The weeds under review usually make their first appearance in the young bush-burn pastures two or three years after the primary burns. They may rapidly take charge, until eventually they are replaced by taller-growing plants if Nature is allowed to take its course unchecked.

Manuka, tauhinu, bracken fern and hard fern have been responsible for the expenditure of large sums of money in a continual and often vain struggle to keep such growth in check. Effective methods of controlling such scrub are described, but in any effort of control it is essential to have a knowledge of the growth-forms and life-histories of the plants.

Manuka

RED OR STUNTED MANUKA.
(*Leptospermum scoparium.*)

On much of the surface-sown, deteriorated grasslands, inadequate pasture cover, together with the ineffectual trampling of stock due to low-carrying capacity, cannot check manuka aggression.

In the Poverty Bay district manuka is kept well in hand on most of the hill country, but it is fairly prevalent along the southern boundary of the Cook County and Wairoa. Odd patches occur on the East Coast and parts of the Matakaoa County. The higher

country frequently has a top layer of pumice.

A small proportion is ploughable and is then easily brought in with swedes, followed by rape, before sowing down. One good ploughing will destroy the manuka if the seed is buried properly. The ground is not turned over again, and only surface cultivation is carried out.

Stock droppings from the fed-off crops enrich the surface soil for the grass sowing. In the Waerenga-o-kuri district there is an excellent example of the conversion of ploughable, stunted-manuka country to high-class pastures of ryegrass and subterranean and white clovers.

Afforestation

Control is often very difficult and uneconomic because of high maintenance costs per acre in the incessant struggle against this persistent weed. On steep and difficult country with a low productive limit, where it is almost impossible to keep manuka in check, reafforestation appears the only reasonable solution.

Control Factors

Manuka is a particularly free seeder. The seed is shed during August to germinate in September. A proportion