

## Eradication of Mexican Devil Weed

COMMONLY known as Mexican devil weed, *eupatorium glandulosum*, which is described by Dr. Allan in the "Journal of Agriculture," March, 1933, is causing anxiety to farmers in certain parts of the Auckland Province by its increase in growth and the difficulty experienced in eradicating it.

It is a shade-loving plant, and grows thickly and vigorously in rough, shaded valleys. Here the pastures are generally poor, and the land is covered fairly thickly with bracken fern. It also grows on the higher country where the rainfall is fairly heavy. Under these conditions the sward is generally becoming invaded with bracken fern, and here it establishes in the shade of fern clumps. It is also found growing strongly in the shade along the edges of bush areas, but it will not thrive in the bush itself.

### Cutting and Pulling

Cutting and hand-pulling before the plant seeds is the usual method adopted for eradication. The plant has a very shallow rooting system, and, when soil conditions are damp, it is fairly easy to pull. Control by this method has not met with much success. The roots appear hard to kill, as, when the plant is pulled and turned with the roots exposed to the sun and weather, it has the power to re-root and exist until the seeds have matured. A thick crop of seedlings



A general view of dense growth of Mexican devil weed on a shady hillside.

come away from the seeds during the following spring.

It is generally found in the shady valleys where the country is steep and carrying a poor sole of grass. It does not exist on clean country which is carrying good grass and is being effectively managed with cattle and sheep with the addition of topdressing.

### Experimental Work

Experimental work has been carried out during the last two years by the Department of Agriculture to see

whether the plant can be successfully eradicated with sodium chlorate. The following technique was adopted.

A hillside, taken where the *eupatorium* was thick, and was divided into eight plots each 50 lks. x 33 lks. The *eupatorium* was cut just above the ground on alternate plots, and half the cut plots were sprayed with a 5 per cent. solution of sodium chlorate, the others being dusted with sodium chlorate and lime mixed at 1 to 10. The four remaining plots, where the *eupatorium* was left standing, were treated in a similar manner.

Two applications of sodium chlorate were given to the plots, the first in October, 1937, and the second in January, 1938. The plots were cleared of all rubbish, which was burnt during the autumn of 1938, and the area was sown with a grass seed mixture consisting mainly of danthonia, browntop, and *lotus major*. Basic slag at 2 cwt. per acre was also applied at the time of sowing.

### Results

Because of wet, cold climatic conditions after sowing the establishment of grass was not very satisfactory, but the sodium chlorate treatments had shown their effect on the *eupatorium*.

Plots which were cut before dusting with sodium chlorate and lime mixture, and those sprayed with 5 per cent. solution, showed about a 60 per cent. kill. This suggests that if the applications were continued annu-



Cutting—the usual method of control adopted by farmers. Note the dense second growth coming away.