Thesis summary

A STUDY OF THE POPULATION DENSITY, LONGEVITY AND GERMINATION OF BURIED SEED IN SELECTED SITES IN THE MANAWATU

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A study of the population density and the viability of buried seeds was determined in soil from six sheep pastures of varying ages; on two soil types, clay and sand, and at two depths (0 to 7.5 cm and 7.5 to 15 cm).

Weed seeds contributed most to the total population of the 41 different species recovered, followed by clover seeds, with a few grass and crop seeds. The main weeds were ***Chenopodium album*** (fathen) and ***Juncus bufonius*** (toadrush), fathen being abundant in dry areas. ***Rumex*** spp (docks) and ***Silene gallica*** (catchfly) were abundant in one sandy soil. Populations of up to 970 000 000 weed seeds per acre were recorded in the top 15 cm of soil.

The viability of clover seeds was high (81 to 100%), but for weed seeds and crop seeds the viability was variable (5.9 to 100%).

The total number of seeds, and of weed seeds in particular, was highest in clay soil. Soil type did not appear to effect viability.

The results obtained are of practical importance,. particularly in cases of sowing down new pasture. soil cultivation prior to cropping, and in areas destined for seed production.