

VEGETABLE CROPS

Vegetable Research.—A Vegetable Research Section has now been established and trials of vegetable strains and varieties have been extended. These trials are furnishing seedsmen with information on their stocks as well as ascertaining the extent to which present supplies are meeting the public requirements. Broccoli, spring cabbage, and Savoy crops are being paid particular attention.

Selected lines of certain vegetables are being increased and trial areas to ascertain the most suitable conditions and technique for seed production have been laid down in various parts of the country.

Weed Control.—Extensive trials have been carried out with the new hormone weed-killers, and detailed reports are in course of preparation.

Many annual and biennial and some perennial weeds are readily killed by them. Californian thistle, with its deep and extensive root system, is a much more difficult problem, and much work will have to be done before any recommendations can be made regarding optimum rate and time of application.

Cereals and established pastures and lawns are not apparently much affected, though the growth may be checked to some extent. Peas are very severely injured, even at low rates. Linen flax and linseed are not obviously injured by aqueous solutions, but are very severely damaged by oil emulsions. Possible damage to fibre in linen flax is being investigated, and until these investigations are completed the use of hormone weed-killers on linen-flax must be considered risky.

BOTANY DIVISION

Director: Dr. H. H. ALLAN

An Assistant Director took up duties towards the end of the year.

ADVISORY

Some 2,000 specimens have been examined and reported on, including several weeds not previously recorded. Among these were ball mustard (*Vogelia paniculata*), ditch celery (*Apium nodiflorum*), and English fleabane (*Pulicaria dysenterica*), all potentially serious weeds. Numerous inquiries have been replied to concerning hemlock (*Conium maculatum*), which appears to be often confused with the comparatively harmless wild carrot (*Daucus carota*), though the bristly fruits and other characters of the latter make it readily distinguishable. Kikuyu grass has been found to be well established about Croixelles Harbour, apparently the first recorded occurrence in the South Island. Advice has been rendered concerning the eradication of primrose willow (*Jussiaea diffusa*), which is giving increasing trouble in the drainage area of the Waikato River.

HERBARIUM

The valuable collection of the late Dr. Wm. McKay, of Greymouth, donated to the Division by the will of the late owner, has been incorporated. This collection is rich in material from Westland. Algal contributions have also been received from Mr. V. J. Lindauer. The important monograph on New Zealand lichens published by the late Dr. A. Zahlbruckner, of Vienna, and based on large collections forwarded by this Division, has been received. The lichen herbarium is being reorganized in the light of this treatment. Inquiries for herbarium material and offers of exchange have been received from various European herbaria damaged during the war.

VEGETATION SURVEYS

Further work has been done on the Molesworth-Tarndale area, and a report is in preparation. Reconnaissance surveys have been made in north-western Nelson, together with herbarium collections. A full report has been issued to the Wairarapa Catchment Board on the vegetation on much of its area. This demonstrates serious deterioration of forest at high levels owing to the damage done by deer and opossums. Suggestions have been formulated concerning treatment and utilization, including some of the badly eroding areas.