

Yellow-leaf of phormium has been the subject of considerable study, and a new species of *Ramularia* very similar to the one causing a root-disease in ginseng has been isolated. So far, inoculation experiments have been of a negative character, but it is more than probable that this *Ramularia* is a weak pathogene only capable of infection when the phormium-plants have been weakened by adverse soil-conditions. As has been pointed out by Dr. L. Cockayne, at the present time there is a very general improvement in the vigour of flax swamps, and in consequence yellow-leaf is far less pronounced than last year.

During the year very considerable amounts of mycological material have been collected, and the cryptogamic herbarium has been largely increased. This work is of fundamental importance in the work of the plant pathological laboratory, and it is hoped shortly to establish a series of exchanges with foreign institutions in order to strengthen the collections. As was usual in past years, a large number of mycological specimens have been examined and reported upon. This portion of the work of the Section continues to grow, and takes up much time and patient study.

ENTOMOLOGY.

Apart from the routine work on the identification of insects and supplying information on control, a considerable amount of original investigation has been carried out. The insect pests of the eucalyptus plantations of the South Island have been given some study, and a publication on the subject is being prepared. Work also on the life-history of the meadow-foxtail midges, the grass-grub, and the pear-bud midge has been undertaken. There has, however, been much call on Mr. D. Miller's services for field-work, and this renders difficult the carrying-out of any sustained laboratory investigations.

AGRONOMY AND AGROSTOLOGICAL INVESTIGATIONS.

Work on the ecology of New Zealand grasslands has been continued, and to this work Mr. E. B. Levy has devoted a large amount of time. Many photographs of numerous ecological phases of grassland production and management have been secured, and these have been found to be of the greatest value in extension work along the line of farmers' lectures. Advice on grassland work in general has steadily increased, and the work of this Section along these lines has done much towards an improvement in our grasslands.

FIELD EXPERIMENTS AND AGRICULTURAL EXTENSION.

Much of my time has been occupied in the planning of experimental work on the experimental and demonstration areas, notably at Winton, Gore, Ashburton, and Marton. Advice and field work in connection with the agricultural extension work carried out by the Fields Instructors has also had to be undertaken from time to time.

LECTURES AND EDUCATIONAL WORK.

During the year many lectures to farmers have been given, both in the North and South Islands, and a series of lectures have been given to the returned soldiers undergoing training at the Central Development Farm, Weraoa.

HEMP-GRADING SERVICE.

REPORT OF THE CHIEF HEMP-GRADER.

The Director-General. Wellington, 15th May, 1920.
 HERewith please find my annual report for the year ended 31st March, 1920.

W. H. FERRIS, Chief Hemp-grader.

VOLUME OF PRODUCTION.

The quantities of hemp and tow received at the grading-stores for the year ended 31st March, 1920, again show a very marked decrease compared with the previous corresponding period. The large reduction is accounted for by the low prices ruling during a great part of the season and by the high cost of production. Only those millers who were favourably situated could produce hemp at the prices offering. Also, during the three months when the shortage of coal caused a curtailment of the railway service, very few mills were able to carry on, and the industry was practically at a standstill. The grading-port most affected by these causes was Bluff, the total number of bales of hemp graded being only 7,612, as compared with 20,053 for the previous year, a decrease of 12,441 bales. Wellington and by-ports show a decrease of 13,818 bales, Auckland 10,012 bales, and Foxton 9,634 bales.

Drought in the Bay of Plenty and Waikato districts was responsible for the destruction of large areas of green flax by fire, while blight and disease in the Manawatu district was the cause of a decrease of at least 8 to 10 tons of fibre per day.

PRICES.

The average f.o.b. prices per ton obtained for phormium fibre for the past year are as follows: Hemp—Good-fair £33 10s., high-fair £31 10s., low-fair £28, common £23. Tow—First grade £8 10s., second grade £7 10s., third grade £6. Compared with the previous year these prices show a decrease of £8 10s. for good-fair and high-fair, £10 for low-fair, and £7 for common, whilst the price of tow has increased by £1 per ton in all grades.