

LINEN FLAX

The work of the Division has been completed and a report published, with special reference to the relation of flax quality and production on the different soil types. A final report is being submitted for publication. Fibre quality is linked up not only with soil type, but also with seasonal conditions. Lodging appears to be related to large thin-walled fibres.

SEAWEED

Agar.—From June, 1942, to December, 1946, 381 tons of agar seaweed have been collected, including 175 tons from Hokianga, 157 tons from Bay of Plenty, and nearly 45 tons from East Cape district. The total for 1946 was 109 tons. Certain beds yielded more in 1946 than in any previous year—*e.g.*, 8, 18, 7, 21, and nearly 30 tons in successive calendar years—indicating that with care at least the present average could be maintained indefinitely. Intensive canvassing by the Internal Marketing Division in southern Hawke's Bay has resulted in 10½ tons being sent in to Hastings in four months from that district, which in the previous four years had yielded only a little over 2 tons, although surveys had indicated that it had rich possibilities. The factory is now using weed about as fast as it is collected and is producing 1,000 lb. of agar a week, of which about 75 per cent. is exported. Production could be doubled if more weed comes to hand.

A review of supplies of weed up to June, 1945, was published in *N.Z. Journal of Science and Technology*, Vol. 27, pp. 311–7.

General.—Renewed interest in collecting carrageen (Irish moss) about Wellington resulted in various requests for advice and instruction; more than 3 tons of high-quality carrageen have been harvested. Some inquiries related also to a project to use New Zealand brown seaweeds for extraction if alginates. Field work has been done in Taranaki, Castlepoint, and Collingwood districts. Summarizing data accumulated during surveys of commercially valuable seaweeds, a paper is being prepared on the marine algal provinces of New Zealand. A fine collection of samples, literature, and notes on Japanese seaweeds and their uses have been received from Mr. K. J. Mitchell.

PEAT AND POLLEN

A paper has been published dealing with the peat work done on the Hauraki Plains. A further series of samples has since been taken and is under study, including pollen content. Nearly 300 slides have been added to the reference collection. The preparation of a key to fern spores is well advanced. Atmospheric pollens, for hay-fever problems, have been studied at three stations in Wellington, and field studies continued. The only long and heavy pollen shower recorded during the season was that of grass pollen from November to February. The most abundant tree pollens likely to cause hay-fever in Wellington are those of species of cypress and the native coprosmas. Observations were made on many other species with hay-fever potentialities.

TUSSOCK GRASSLAND

Vegetation and Flora.—A general survey is being made of the whole Molesworth area, along with more detailed projects:—

(a) Quadrats and transects have been set up in places, with and without grazing by stock and rabbits, for recording actual changes with time in representative samples of plant cover—*e.g.*, good tussock, poor tussock, sorrel, seabweed, and the vegetation of gullied slopes. Records of changes following clipping and burning of tussock are also being kept. Conclusions to date are that, even with full protection of opened-up tussock, changes are very slow in individual plants and natural seedling establishment is poor.

(b) *Scabweed*.—Five species of *Raoulia* occur, but special attention is given to *R. lutescens* and *R. australis*. Seeds germinate and young plants establish freely in certain places, but death rate in early stages is high. Growth is always slow, the maximum recorded for *R. lutescens* being about 2 in. per annum in small plants in particularly favourable places. This gives a means of estimating the minimum age of older plants that will be a useful yardstick in the study of adjacent vegetation.