

Agricultural Instruction and Investigation Work.—The duties involved in the organization and supervision of this work greatly increased. Special investigations are being made into the following, among other matters: Economics of crop-production in meat, wool, and milk; influence of turnips on the tainting of milk; farm-management methods in the control of root-crop diseases; influence of phosphates on soil-fertility; factors influencing succession in New Zealand grasslands (representing a large series of connected researches in applied ecology); critical study of succession dominants in grassland associations; and management of low tussock-grassland in New Zealand.

Lectures, Publications, and Photography.—In connection with the increasing demand for agricultural instruction and for special instruction to various farming organizations throughout New Zealand, the members of the Biological Laboratory staff have contributed a full share of lectures based upon their own original work. A large amount of matter dealing with various branches of the work has been contributed to the *Journal* by different members of the staff. Photographic and other illustrational work also merits special mention.

Staff.—Praise is due to the staff for the manner in which they have co-operated to meet the many and varied demands upon their services under retrenchment conditions.

PUBLICATIONS SECTION.

The Publications Section, with Mr. R. H. Hooper as Editor, has put a steady year's work to its credit.

The *New Zealand Journal of Agriculture* has been well maintained as the Department's foremost means of publicity, and much valuable original matter has been placed on permanent record in its pages. The aim, so far as circumstances will allow, is to blend the more practical instructional side with a popular scientific element in relation to the various branches of New Zealand agriculture. Apart from its Dominion circulation, the *Journal* has continued in request by agricultural and other scientific institutions in all parts of the world, and in this way it may be regarded as an effective means of publicity for New Zealand abroad.

During the year it was found necessary to increase the subscription of the *Journal* from 4s. to 6s. per annum (or £1 for four years), in order to comply with the general policy laid down that official services of this nature should be as far as possible self-supporting.

There has been a steady output of bulletins and other instructional printed matter during the year. The Section has also prepared and issued various other publications connected with the Department's activities.

HEMP-GRADING SERVICE.

The production of hemp (phormium-fibre) during the year was about on a par with that of 1921-22, while tow showed a considerable increase. Since October last there has been a general improvement in the quality of hemp forwarded for grading. During the last few years the quality of tow generally has been good, it being in most cases free from dust and rubbish, while prices have also been satisfactory, this no doubt being partly due to the better quality produced. Judging by the negligible quantity of stripper-slips forwarded for grading during the year, there was practically no demand for this by-product.

During the year 57,958 bales of hemp passed through the grading-stores, a decrease of 42 bales as compared with the previous twelve months. Tow graded amounted to 14,974 bales, an increase of 2,143 bales; and stripper-slips to 129 bales, a decrease of 525 bales. The gradings of hemp showed the following percentages for the various grades: Fine, 0.51; good-fair, 24.32; high-fair, 56.18; fair, 15.05; common, 2.55; rejected, 1.35; condemned, 0.01. Of the tow graded 44.63 per cent. scored first grade, 47.52 per cent. second grade, 6.47 per cent. third grade, and 1.36 per cent. was condemned. Of the stripper-slips 44.34 per cent. scored first grade, and 55.66 per cent. second grade.

Wellington shows a decrease of 5,192 bales of hemp graded, this being due, firstly, to the ravages of the yellow-leaf disease, and, secondly, to the number of floods in the Manawatu district during the early part of the season, which delayed milling operations. Foxton shows an increase of 4,304 bales. At Auckland there was an increase of 2,829 bales, and the outlook for the output generally in the Auckland District is very promising. Blenheim shows an increase of 213 bales. At Picton there was a decrease of 531 bales. Dunedin and Bluff show a decrease of 1,007 bales, but the general quality of hemp produced has been good.

A charge for grading hemp and tow, at the rate of 1d. per hundredweight or part thereof, was brought into force as from 1st August last.

Large areas of phormium in the Manawatu district have been destroyed or seriously deteriorated by the ravages of yellow-leaf disease. Some satisfactory results have been obtained from extensive experiments carried out at Messrs. A. and L. Seifert's Miranui Mill with a view to overcoming the disease and discovering immune varieties of phormium. Improved methods of cutting the green leaf are also being tested, and the results, as far as yield is concerned, are very promising.

During the year Mr. W. Petrie was appointed to the position of Chief Hemp Grader.

DEPARTMENTAL LIBRARY.

The general supervision of the Department's central library has been continued by Mr. B. C. Aston, with Mr. E. McCarthy in immediate charge. The expenditure of a considerable sum of money on binding is urgently required as soon as financial conditions permit, if the library is to supply a very pressing need in the Department's activities, as the difficulty of keeping in order and preventing loss is very much greater in a library when serials are unbound.

C. J. REAKES, D.V.Sc., M.R.C.V.S., Director-General.

Approximate Cost of Paper.—Preparation, not given; printing (800 copies), £19.

By Authority: W. A. G. SKINNER, Government Printer, Wellington.—1923.

Price 6d.]