

REPORT OF THE DIRECTOR-GENERAL.

THE HON. THE MINISTER OF AGRICULTURE.

Wellington, 30th June, 1929.

I beg to submit herewith a report dealing with the work of the Department during the year ended 31st March, 1929, and in doing so to express my sincere appreciation of the manner in which Divisional Directors, Heads of Sections, and all other officers have throughout endeavoured to carry out their duties to the best advantage of the Department's efficiency and of the welfare and progress of the primary industries.

FIELDS AND PASTURES.

The Fields Division has had an extremely busy year, both in its instructional and research activities. Grassland-management instruction and grassland research have developed very considerably, due to the considerable increase in staff that is now available for this work. Methods of surplus-grass utilization and the development of ensilage-making have been a feature of instructional work. A large amount of demonstrational work in intensive grazing and the value of nitrogenous fertilizers for special seasonal growth has occupied much of the attention of the field staff in the North Island. The control of hard or carpet fern with arsenic pentoxide, and methods of better establishment and maintenance of pastures on deteriorated country, have been put to practical test during the year with satisfactory results. The supervision of expenditure under the Deteriorated Lands Act has also been successfully conducted.

The most outstanding work of the year from the grassland viewpoint has been the very clear demonstration over many parts of New Zealand that the greater part of the perennial rye-grass at present sown in New Zealand is perennial only in name. The hundreds of lines that have been grown at Palmerston North have shown that true perennial rye-grass is harvested in certain areas. Its great superiority over what may be termed temporary rye-grass or false perennial rye-grass clearly necessitates a complete change in the rye-grass grown for seed, and a system of certification whereby genuine mother seed can be guaranteed is being put into operation. The substitution of the present temporary rye-grass by true perennial seems destined to effect a very great improvement in pasture establishment, and may relatively prove to be second only in importance to top-dressing itself.

Crop certification, in particular with potatoes and wheat, is developing very rapidly, and can be viewed as work of the first importance, having as its objective the elimination of the "scrub" crops from the farms of New Zealand.

The wheat manurial experiments, now in their fifth year, have yielded most important results, and more important than the results themselves is the fact that they are being made use of by the farmers, as is indicated by the fact that over 65 per cent. of the wheat crop is now manured according to the directions or advice of the Division.

The fields instruction staff is doing good work, and the demand for the services of these officers cannot at the present time be in any way adequately met with the number available, hence additions are highly desirable. The position is, however, that men of the high practical and scientific ability required in this work are extremely difficult to secure. It is hoped that within a few years the two agricultural colleges will be turning out men that are suitable for the requirements of the Division, and in this connection it is perhaps as well to emphasize that the training given should be specifically directed towards making such graduates really efficient from the viewpoint of farming instruction.

THE PLANT RESEARCH STATION.

The Plant Research Station at Palmerston North, under the directorship of Mr. A. H. Cockayne, has now got well into its stride. Research on plant-diseases has been vigorously prosecuted, dry-rot and club-root of swedes and turnips, and cereal, pea, and potato diseases being the main ones under investigation. During the year the staff of the Station was considerably strengthened, both by officers paid for by the Department of Scientific and Industrial Research and by transfer of certain of the specialist officers of the Fields Division to Palmerston North. The centralization of research workers has proved of the very greatest value, enabling efficient team-work to be prosecuted. Dr. G. H. Cunningham is at present absent on a visit to America and Europe, investigating a number of important matters and establishing personal contacts which should prove of great value in connection with the work.