

Rye-grass, particularly that from the South Island, has been considerably poorer in germination than the average. The cause may have been the higher rainfall of the past year, but there is a rather widespread idea that top-dressing has had some effect in this direction; and it has been suggested that the Department make some investigation into the effect of various top-dressing fertilizers and different harvesting methods. It is proposed to carry out this work for the 1929 harvest. There is good reason to believe that there is a tendency to harvest top-dressed crops rather too early, but the whole matter requires definite field investigation.

The 1927 season was an excellent one for both crested dogtail and Chewings fescue, 80 per cent. and 70 per cent. respectively of the samples tested growing 90 per cent. or over. The export demand for fescue was unprecedented, and stocks were cleared well before the end of the year. The demand for dogtail was not so good, the retail price falling considerably from the hitherto high figure. Consequent on the Department's investigation into the loss of vitality in export Chewings fescue, the growers were advised to delay harvesting operations as long as possible, so that the seed might more nearly approach complete maturity. The indications are that this has been generally carried out, and in consequence no complaint has reached us regarding failure of any shipments. During the year Messrs. Du Pont Co., of Wilmington, Delaware, U.S.A., asked if the Department was prepared to carry out shipment trials with Chewings fescue dusted with Semesan, they being of the opinion that seed so treated would not deteriorate. In May of this year the first of a series of trial parcels of seed treated with Semesan was forwarded to Washington, U.S.A., and to Cambridge, England, where the seed will be stored and tested at regular intervals. Should this dusting treatment considerably improve the storage capabilities of fescue, it is possible that the treatment could be used with advantage with other export seeds, principally dogtail.

It is intended to make a survey of the weed flora of the seed-producing areas in New Zealand in relation to the occurrence of the weed-seeds in seed-samples, both undressed and machine-dressed. Work has been commenced on white clover, and arrangements have been made for the collection of samples of white clover from the principal seed-producing areas throughout New Zealand. Surveys of this type are in progress in many other countries, and prove of value in accurately ascertaining the place of origin of lines of seed.

In addition to the routine purity and germination tests, 130 special tests for the purpose of the Canadian Seeds Act were carried out. New Zealand exporters have expressed their appreciation of this system, whereby any line under shipment to Canada may be given a Canadian port clearance certificate prior to shipment; also provisional grading figures. This Canadian system is frequently contrasted with the Australian Quarantine Act, under which there appear to be no quality standards, import shipments being allowed or refused entry at the discretion of the port quarantine officers. New Zealand exporters have expressed their willingness to conform to any reasonable Quarantine Act, but in the absence of definite standards of purity and germination trade with the Australian States is at times a most uncertain business, for the reason that the shipper cannot foresee whether even a good average line may be allowed entry. It would be in the best interests of both the shipper and the importer were import standards instituted by the Federal authorities.

Under the uniform system of testing and reporting proposed by the International Seed-testing Association, New Zealand, as a member, will be required to make a considerable number of special analyses on export lines. This will necessitate our strict adherence to the European system of testing, and it will therefore be necessary to make provision in staffing and equipment in the near future. These international certificates will be recognized in any country, and will be directly comparable with analyses made therein. This will result in the removal of many of the difficulties encountered in the export trade at the present time.

Apart from the routine testing-work, full records have been taken of all the purity- and germination-test percentages, the tabulated results being issued quarterly to the seed trade. Approximately 200 seed-samples were identified, and advice given to growers and merchants regarding seed-production, quality standards, and matters relating to export and retail generally. One firm is being co-operated with as to the value of various chemical agents and cool temperatures in relation to the storage of vegetable seeds. Approximately 800 germination tests were made on behalf of the mycological section in connection with its investigations into the control of cereal smuts and dry-rot of swedes and other seed-borne diseases.

A series of referee samples was tested on behalf of the International Seed-testing Association, eighty-seven other stations participating. The results recently to hand show that the work of the New Zealand station compared very favourably with that of the large European stations.

Departmental Photography.

During the year a large amount of photographic work has been carried out in the Laboratory. A new departure for the year was the making of transparencies for show exhibits, and the provision of photographs for publicity purposes. This latter included a special set of enlargements for display in the office of the High Commissioner for New Zealand, in London, and a set of agricultural views for publicity cards in cigarette packets. Several visits were made to other districts, such as Blenheim and Raglan, to obtain photographs, principally for pastoral scenes, Ashburton and Marton for experimental plots, Ruakura and Wallaceville for stud stock, and Auckland for apple-diseases. The routine work showed a general increase in printing (including enlargements) and in the number of photographs taken. The demand for lantern-slides for instructional purposes also greatly increased, the number made during the year being 2,096, as against 1,349 last year.

STAFF.

I desire to thank all members of the staff for their cordial co-operation in the carrying-out of the many and varied phases of the work coming within the scope of the Division.