Germination of Peas.

Regulations controlling the importation of seed peas into Australia require that germination tests be carried out in soil. Such tests in the past have given very inconsistent results, and the matter has been given special attention during the past two seasons. It has been found that only by using sterilized soil or by treating the seed with a suitable fungicidal preparation can consistent results be obtained. In the course of this work the mercury dusts at present on the market were tested to ascertain their capacity for protecting peas germinating under adverse soil conditions. It was demonstrated that these products, although giving some measure of protection, were not fully effective, because of the fact that an insufficient quantity of the dust adheres to the seed. Further experiments are being carried out with other preparations.

Vernalization.

In collaboration with the Agronomy Division of the Plant Research Bureau, experiments were carried out to ascertain the practicability of vernalization in connection with the production of seed of *Brassica* varieties in New Zealand. Vernalization, if effective, would make it possible to sow crop in the spring and harvest seed the same year.

In the work during the past year marrow-stem kale and two vatieties of rape were used. Partial success was achieved, particularly with the Giant rape. It is proposed to make further trials employing a modified technique.

Other activities include—

(*a*) A survey of cheap seed mixtures on the New Zealand market.
(*b*) A study of the effects of "dry pickling" of wheat on the retention of vitality during storage.
(*c*) In collaboration with the Department of Scientific and Industrial Research, trials in the machine-drying of Chewings-fescue seed, following upon work carried out by this Station on the deterioration of the seed during shipment from New Zealand.
(*d*) Identification of seed specimens.

SEED TRADE, 1938.

Export.—For the year ending December, 1938, the Dominion exported 2,270 tons of grass and clover seed, valued at £234,287, which totals, compared with those for 1937, represent a decrease of 730 tons in quantity and an increase of £28,589 in value. Nearly half the export was purchased by Australia and approximately one-quarter by Great Britain. The reduction in quantity was due to a second unfavourable harvesting season, but increased values resulted in a considerable falling off in the demand from the Northern Hemisphere for all except turf grass-seeds.

Import.—A total of 750 tons of grass and clover seed valued at £56,000 was imported, which totals show a decrease of 16 tons only in quantity and a reduced value of £22,000. Reimportation of New-Zealand-grown seed accounted for 220 tons of the total importation, a reflection of market conditions within the Dominion.

Approximately 500 tons of swede, turnip, rape, and kale seed were also imported, at a total valuation of £42,600.

The third unfavourable harvesting season experienced in 1939 will result in a reduced export this year, although Australia, with very short supplies, has been forced into a high-priced market in New Zealand.

SEED-PURCHASING FOR GOVERNMENT DEPARTMENTS.

For the year ending March, 1939, record figures were reached in all phases of seed-purchasing. The following tabulation shows the extent of the purchases authorized compared with those of the previous year—also a record year:—

——	1938–39.	1937–38.
Number of requisitions	739	668
Number of lines considered	11,000	10,000
Number of lines accepted	3,800	3,200
Total quantity—		
Grass and clover (tons)	718	500
Cereals, &c. (bushels)	4,754	3,600
Root seeds (lb.)	10,507	8,710
Seed potatoes (tons)	63	74
Total value—	£	£
Grass, clover and roots	82,000	52,818
Cereals, &c.	1,841	2,078
Seed potatoes	424	625
	84,265	55,500