The following table of areas inspected indicates the progress made since the inauguration of seed certification in 1927 :—

Seed.	Acres inspected each Season.							
	1927–28.	1928–29.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.	1934–35 (approximate).
Potatoes	821	909	1,200	1,334	1,146	1,154	1,322	1,927
Wheat	473	1,184	2,277	3,289	1,063	1,873	2,937	2,600
White clover	..	325	664	311	31	100	538	1,300
Perennial rye-grass	..	..	3,028	6,539	9,709	22,917	13,236	11,500
Brown-top	..	..	22,000	24,901	18,297	14,860	17,150	Not available.
Cocksfoot	..	..	..	..	4,226	5,097	5,485	6,500
Montgomery red clover	..	..	..	..	9	71	168	350
Swedes and turnips	..	..	..	..	..	..	128	..
Italian rye-grass	..	..	..	..	..	..	..	300
Totals	1,294	2,418	29,169	36,374	34,481	46,072	40,964	..

ACKNOWLEDGMENTS.

Mr. Calder has been engaged wholly on the investigations undertaken at this Station. Mr. Thomson is in charge of the Pure Seed Station at Lincoln, and Mr. Claridge has devoted all his time to the organization of seed certification. Recognition is here accorded to the valuable services rendered by these officers, and to the helpful co-operation afforded by specialists attached to the Station and officers of the Fields Division.

AGROSTOLOGY SECTION.

E. Bruce Levy, Agrostologist.

The past year has been one of intense activity, and the whole staff concerned has been working at very high pressure.

Field trials and farming experience have again emphasized the enormous value to New Zealand of "strain" in grasses and clovers as a factor to progress. Reports from the South Island from even the most arable districts are extremely encouraging, particularly from the point of view of the rye-grass strain used. New Zealand certified strains are being increasingly demanded. Plot trial, field trial, and farm-scale experience is also emphasizing the value of the New Zealand No. 1 white-clover type, and this fairly bids to rival certified perennial rye-grass in importance viewed from the point of view of strain.

A marked step forward in the year under review is the debut of herbage seeds of a pedigree standard, some 220 acres having been sown out specifically for pedigree seed-production purposes from seed originally bred at the Plant Research Station. Certain of this is grown on contract to the Department who will resell to interested merchants for seed-production purposes under certification. By the resale of this contract-grown seed it is hoped to make revenue-producing the raising of nucleus pedigree stock seed and thus enable the Station work to be placed on a sound and businesslike basis in regard to equipment and labour. At the present time the grassland work is conducted part on the Plant Research Station area, part on Massey College property, and part on city-lease property, and it is highly problematical whether this arrangement will stand for an indefinite period, apart altogether from the inconvenience of working. Some small blocks apart, however, are necessary for isolation purposes when dealing with species like perennial and Italian rye-grass or strains of these that freely hybridize when grown in contiguous blocks.

The present labour requirement is met by unemployed labour, and this is for the most part of a most unsatisfactory nature. The measurement work in relation to production from species and strains, alone and in mixtures, and a grazing trial to study reaction of species and strains to different systems of grazing have been continued at Marton, but the distance away is a factor in seeing these trials sufficiently often to get the best results from a research worker's point of view. A plea for the consolidation of this work at Palmerston North is again made.

The activities of the Station have been extended during the year in co-ordination with the Dairy Research Institute in the matter of our inquiry into the problem of feed flavours in cream and butter. Grassland research has a twofold scope—(1) The production of quantity and quality of herbage; and (2) the effects of such herbage as feed for animals and effect on animal products. Pedigree pastures demand a quantitative and qualitative measure, and the only satisfactory way of getting that measure is by means of the animal itself. The collaboratory work with the Dairy Research Institute on the influence of feeds, fed pure and in mixtures, in particular reference to feed flavours in butter, is a welcome commencement of this work. Plant chemistry is an integral part of such an investigation, and the close co-operation of the Plant Research Chemist (Mr. Doak) is being fully utilized. The Chemistry Section is of very great value to agrostology, both in research and as a routine aid to type determination for certification purposes, particularly in so far as white clover is concerned.

The following are the main activities of the Agrostological Section during the year :—

GRASSES.

Perennial Rye-grass.

Certification and other Plot Trials.—The following are the number of plots sown at the times indicated : Autumn, 1934, 1,581 plots; spring, 1935, 357 plots; autumn, 1935, 855 plots.

The majority of these plots are sown in connection with certification. Most of the first two lots have been finally reported on. The dry weather experienced during the past summer has emphasized and defined very clearly the relative qualities of various types of rye-grass. The following points have been most marked : (*a*) The superior rust resistance of the certified type over old pasture lines from Canterbury, Southland, Marlborough, and some from Wairarapa. (*b*) In a block of spring-sown plots the whole area was badly infested by fat-hen. In the late summer when this had died out the New Zealand certified type was conspicuous by its good dense and even sward. British indigenous types showed a very marked thinning-out of the sward, due to slow establishment and consequent smother. (*c*) In the main, Scottish, Irish, British indigenous, and Australian lines have proved themselves to be definitely poorer than the New Zealand certified type.