

Other varieties under trial were Jumbuck, Marquis, and certain Portuguese varieties. The latter show promise of being very suitable as varieties for spring sowing, since at both centres where they were tried their yields were considerably better than those from Solid Straw Tuscan. They are to be under further trial during the coming season.

Wheat: Rate of Seeding Trials.—Nine trials were laid down, in each of which seedings of 60 lb., 90 lb., 120 lb., and 150 lb. per acre were compared. Three of these had to be abandoned on account of lodging. The average increase in yield of 90 lb. seeding over 60 lb. was 1·7 bushels per acre, the 120 lb. seeding was better than 90 lb. on the average by 0·5 bushels, while the 150 lb. seeding showed an average increase over the 120 lb. seeding of 1·3 bushels per acre. These results tend to confirm those secured in previous seasons and support the contention that more rather than less seed should be used in practice.

Seed Treatment of Cereals (in collaboration with the Mycologist).—Further observational experiments were carried out to investigate the merits of "Ceresan New" as a seed-dressing for cereals. In several of these the thicker and more vigorous germination of the Ceresan-treated cereal was apparent in the early stages, but as the dry season mitigated against the occurrence of disease in any of the trials, no data as to the effectiveness of Ceresan in combating smut as compared with formalin, copper carbonate, or no-treatment was available.

POTATO EXPERIMENTS.

Manuring.—Eleven experiments were laid down in 1934, but the crops have not yet been dug. These trials investigate the effect of the addition of sulphate of ammonia and sulphate of potash to the standard dressing of 3 cwt. superphosphate on the lines of previous experiments.

Source of Seed Potatoes.—This series of experiments is being continued with the Dakota variety, seed of which is being grown at nine centres. The results of trials up to the 1933-34 season were published in the *Journal* for February, 1935.

Swedes and Turnips.

Manuring.—Three experiments have been laid down during the current season.

Varieties.—Various trials are being carried out to compare New-Zealand-grown seed with imported seed (in collaboration with the Agronomist) and to test the relative immunity to club-root of varieties or strains (in collaboration with the Mycologist).

Rape.

Several trials are in progress to investigate the performance of two lines of rape selected by the Mycologist as being relatively resistant to club-root.

Miscellaneous.

A number of experiments are being conducted which cannot be classified under the headings above. Included among these are trials of lupins in combination with other crops, trial of pampas grass as a stock-food for cattle, the control of ragwort and other weeds by spraying, and experiments on the manuring of lucerne.