

Cereals and Seed Vetches.

This experiment was planned to ascertain which is the best cereal to sow with vetches to prevent lodging of the latter, also to find out if any cereal would ripen and cast its seed earlier than the vetches, thus leaving a comparatively clean sample of vetch-seed. Four quarter-acre plots were sown on the 25th August with Scotch vetches at $1\frac{1}{2}$ bushels per acre, together with the following cereals also at $1\frac{1}{2}$ bushels per acre: Plot 1, Solid-straw Tuscan wheat; plot 2, Cape barley; plot 3, Emerald rye-corn; plot 4, Garton oats. Superphosphate at 2 cwt. per acre was used for manuring.

The plots were harvested on 3rd February. As a holding-up crop the order of preference was—(1) wheat, (2) rye-corn, (3) oats, (4) barley. None of the cereals had cast all its grain when the vetches were ready for harvesting, although probably two-thirds of the oats in plot 4 had shaken out.

TURNIPS AND RAPE.

A comprehensive experiment was planned with these crops, both manurial and seed tests being embodied. Owing to the ravages of aphids and diamond-back moth during a dry spell the crops were practically ruined. In the early stages, however, New-Zealand-grown rape and turnip seed both compared very favourably with the imported. Every plot which had an application of manure grew larger plants than were grown on the controls, but, as related in the *Journal* for May last, heavy applications of either superphosphate or basic super in contact with the seed lowered the germination considerably.

LUCERNE.

The first growth of the season showed great promise, the manured portion being particularly forward, but the crop was caught by a late frost when almost ready to cut, and was practically ruined. In all subsequent cuts the manured plots gave heavier yields than the unmanured plots. Grazing-tests were carried out on an area of 8 acres, the lucerne standing heavy stocking quite well. The carrying-capacity of this area, as represented by the sheep grazed during the growing season, gave the equivalent of 6.73 sheep per acre per annum.

There is evidently a certain amount of danger from bloat in grazing lucerne, particularly in the case of ewes and lambs, and lambs just off their mothers. Over a period of five weeks' pasturing five strong forward lambs and one store lamb died out of a total of 160. In the case of the five forward lambs death occurred on a morning following rain. The sixth lamb was scouring rather badly, and would possibly have died on any strong feed. Similar cases were experienced when pasturing ewes and lambs on the lucerne. Rain had fallen on two nights only during the pasturing-period, and on each day following one ewe died. Good-constituted wethers with some condition can be pastured safely enough on lucerne, and they do well.

It was also noticed that sheep's burnet growing in an adjoining gully was eaten more readily than the lucerne by all ages of sheep, and even the weed grasses and gorse hedges came in for their share of attention. It seems evident that lucerne alone did not satisfy the sheep, but whether this preference for other food indicates some deficiency in lucerne or simply a desire for a change of diet is largely a matter of conjecture.