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Report by Mr H. G. Miller

H. G. Miller

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LUCERNE INOCULATION, LANSOME FIELD, 1932

Inoculated and uninoculated seed were sown in strips on April 21st, with a small proportion of mustard seed for the purpose of a cover crop. The lucerne grew well, and a first cutting was taken on August 16th. The average yield of hay was just over 13 cwt. per acre. No significant effect of inoculation was observed, in contrast to the results obtained in 1927-29, when a 23 per cent. increase was secured. The experiment is being continued.

MANURING OF GRASS LAND, BROAD MEAD, 1932

The five plots of this area were again closely grazed, and the herbage continued to improve. That on the farmyard manure plot has become much less rank. The limed plot—which remains distinguishable from the others by its profusion of daisies—is still the most closely grazed plot.

POT-CULTURE EXPERIMENTS

Green Manuring. To test whether quantities of green manure greater than those grown in the experiments in Lansome and Stackyard fields would give increased yields in the following cereal crop, a series of pot cultures was done. Earthenware drainpipes 20 inches in depth, open at the bottom to allow free drainage, were sunk into the ground and filled in March, 1929, with soil from the headland of Stackyard Field. The experiment was in quadruplicate, and three successive crops of mustard and of tares, were grown in 1929 and turned in. Wheat was grown in 1930, the green cropping was repeated in 1931, and wheat again grown in 1932.

The results follow :

Average Produce of Corn, 1930 and 1932, after Green-manuring (1929 and 1931)

	Corn Grammes	Straw Grammes
1. Without Green-manure	78.7	130.1
2. Mustard.. .. .	90.9	193.9
3. Tares	86.8	166.5

It appears that a more liberal green manuring than that used in the field condition has but little effect on the yield of grain, though the effect on the straw is greater. There is no marked difference between the effects of tares and mustard.

Pot experiments in which drainage is permitted or prevented, at different periods, are now in progress.

WOBURN FARM

REPORT BY H. G. MILLER, 1932

The weather, though favourable to the root crops and grassland was much less favourable to corn crops. The spring rains, coming shortly after the application of manures, caused serious leaching. The contrast between yields of barley, and in particular wheat, in the 6 course Rotation Experiment at Woburn and Rothamsted is most striking. The Woburn wheat was practically a

failure, the mean yield being only 5.3 cwt. per acre while at Rothamsted it was 27.3 cwt. And the barley plots at Woburn gave only about half the Rothamsted yield, although in the former there was a much better response to nitrogen.

The details of the cropping are given on pp. 133, 135. Butt Furlong oats proved most disappointing. Despite folding with sheep in the winter, even dung on certain portions of the field, and a dressing of artificials, the spring oats showed all the symptoms of acute nitrogen starvation. They refused to develop, weeds got a hold and there was serious trouble with poppies. These were reported bad about 1925, but since 1928 had been practically absent.

The attempt at growing brussels sprouts was a failure due to the extensive damage done by hares; while for those that did escape there was again no demand. There was a good crop of beans in Warren Field but more than an acre round the outsides was completely destroyed before germination by rats.

Grassland is the one crop which escapes damage by game and pests. That sown down recently has come on surprisingly well and is frequently remarked on by neighbours as being the best in the neighbourhood. In Warren Field the differences between the 5 seeds mixtures still persist clearly, but there is remarkably little difference between the indigenous and commercial plots of the same seeds mixture. This year it showed itself for only about a week in June, when the flowering heads on the commercial appeared slightly earlier and were slightly more numerous. From the appearance of this field in both 1931 and 1932 it was very difficult to justify the greater cost of the indigenous strains, or the cost of the dearer as compared with the cheaper mixtures. Mixture IV (see 1930 Report, p. 104) cost 38/6; V, 38/3; III, 35/6; I, 35/- and II (as I but with commercial strains), only 24/6. As at Rothamsted, the plots with meadow fescue appear to be the more palatable.

A nitrogenous top-dressing was again applied to the seven intensive grazing plots to encourage an early spring bite, but for the last two seasons the response to this has been remarkably small. This is similar to experience at Rothamsted and leads us to doubt its value as a general practice where stock receive winter trough feeding on good grassland.

The mixtures sown in 1931 in Road Piece and Great Hill have filled up well but the narrow strips where the lucerne in the mixtures was inoculated are not obviously superior to the rest of the area. The Eastern half of this area was cut for hay, then grazed, but the Western half was grazed throughout the year. Already this seems to have had a weakening effect on the lucerne in the mixtures.

Livestock

In autumn, 1931, 54 ewes were put to the ram. The 50 that lambed produced 84 lambs alive at the end of April. There were born, alive or dead, 14 triplets and 26 doubles. Unfortunately the extra good condition of the ewes, resulted in heavier losses than usual, both of triplets and ewes. "Steaming up" did not pay. But we ascribed the prolificacy of the ewes to attention at flushing time, with supplementary concentrates, and therefore tried an experiment on this point. As already described for Rothamsted, the Woburn results confirmed the negative results obtained there.

Fifty first-class half-bred ewe lambs were bought at Newtown St. Boswells in August, 1931, from the well-known Border farm of Blackhaugh. They were treated well all autumn and run with a Southdown ram. 28 lambed, producing 32 lambs and, although they lambed after the main flock, the lambs thrived well and grew quickly. This was a quite satisfactory result, but, considering the condition of the ewe-lambs, we had hoped for a still bigger crop. The two ewes that reared doubles nursed their lambs well and seemed to have plenty of milk.

With pigs, evidence was obtained at both farms during the year which threw doubts on the value of green food for fattening pigs, even when only recently weaned. This is now one of the subjects of a carefully designed experiment at Rothamsted.

We were less successful at the local Bedfordshire Show than in previous years with pigs, winning only 2 third prizes and a "highly commended." But at the London Dairy Show, with three entries in the class for recorded bacon pigs, we won three second-class awards.

The bullock feeding boxes, which had stood empty so long, have now been adapted for pig feeding, without destroying them for their original purpose.