ROTHAMSTED RESEARCH

Report for 1929

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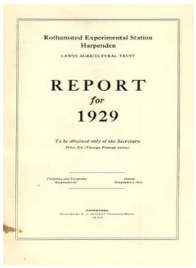

The Farm and Crop Results, Rothamsted, 1929

Rothamsted Research

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THE FARM & CROP RESULTS

OCTOBER, 1928 — SEPTEMBER, 1929.

I. Weather.

The two outstanding features of the weather this year were the exceptional frost in February and the long Summer drought. The mean temperature for February was only 30.7°F., 8° below the 51-year average; the minimum daily temperature was under 20°F. on six days, and went as low as 13°F. on the 14th. This frost was accompanied by a period of drought, which persisted into May. During the four months, January to April, there were 4.089 ins. less rain than the 78-year average. Two thunderstorms in May brought relief, started crops growing vigorously, and ensured a good hay crop; but for the remaining months there was a total deficiency of 5.753 ins.

It was a particularly sunny year, there being 272 hours of sunshine in excess of the 36-year average. March alone accounted for 72 hours of this excess, for as soon as the cold spell finished, a period of bright drying weather began, culminating in a Summer-like Easter week-end. The months from May onwards had 56.6, 23.7, 42.5 and 9.2 hours of sunshine above the 36-year average.

Unlike 1928, the weather was conducive to a splendid Spring tilth, and, once the frost went, enabled cultivation to proceed without interruption. Like 1928, this was a year favourable for fallowing, except for annuals such as *Alopecurus agrestis* (Black Bent), whose seeds remained dormant in the soil throughout fallowing operations, and germinated only after the Autumn cereals had been sown. Like 1928 again, conditions during hay-time and harvest were excellent. It was a poor season for grass, however. The early Summer flush was soon over, and for the rest of the year pastures remained burnt and bare.

II. Crops. (For dates, yields and other information, see Table on pp. 79-80.)

Wheat and Winter oats were sown under favourable conditions, the wheat after potatoes, sugar beet and clover seed, the Winter oats after wheat. Wheat wintered well in spite of the loosening effect of frost on the soil, but most of the Winter oats, having been badly eaten by pheasants, were killed by the severe cold. They had to be patched in the Spring with Spring oats, and three acres were re-sown with barley. The Winter was particularly favourable to Black Bent, which came up very thickly on Broadbalk, despite the 1926-27 fallowing, and also in the Winter oats on Long Hoos II. The fallowing of the lower three-fifths of Broadbalk was completed this year, and the whole field was sown, for the first time since 1925, in October, 1929.

With a good manuring and rolling in March, wheat came on well, and both Little Hoos and Gt. Harpenden turned out dense

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and successful crops. Gt. Harpenden was under-sown with Italian Rye Grass and Broad Red Clover, but the drought and the heavy wheat crop gave these little encouragement and most of the clover failed, though sufficient grass was left for next year's hay crop.

Barley was sown early under favourable conditions, and despite the drought, grew well and gave a heavy yield. The barley in Sawyer's and Gt. Harpenden was under-sown with a permanent grass seeds mixture, as detailed in the previous report (1927-28, p. 101), thereby completing the grass programme. Charlock in Long Hoos was again controlled by spraying.

Barley in Hoos Field was sown in drills 24 inches apart to facilitate cleaning operations. Two varieties were used, in alternate strips, and these were drilled at right angles to the usual direction of sowing.

Harvest was again free from laid grain, except the usual Broadbalk plots and a small trial plot of barley after swedes in Gt. Harpenden, where sheep had been folded on the roots. This showed clearly that if sheep are folded on arable land on this farm, they must be followed by a crop other than barley.

Potatoes were planted by 17th April in Long Hoos I. The yield was light and the crop was lifted under perfect conditions. Sugar beet sown in the same field, Section V., on 4th May, was slow in coming away, and was also a light crop. Barn Field mangolds were sown on 24th-27th April, with the land in good order.

A heavy hay crop was cut from Foster's and Long Hoos III, and immediately after both fields were ploughed by tractor and bastard fallowed. After a good crop of mustard had been ploughed into Gt. Knott, this also was fallowed, the weather offering little prospect of growing a successful second green crop. Both fields were ready for wheat sowing by September, and this was done before the end of the month, before the drought broke.

Immediately after the carting of the corn from Pastures, the field was dunged at the rate of 15-16 tons per acre, using mechanical dung spreaders, and a rye and vetch mixture was sown.

III. Stock.

Twenty-four Angus-cross cattle were purchased in February and kept on the grass from then onwards. They are now being fattened off, either in the stalls or on the grass.

No fattening lambs in addition to those raised on the farm were bought in the Autumn, on account of the poor condition of the grass. Fifty half-bred ewe lambs were secured in August, however, to bring into the ewe flock, this being more profitable at present than the purchase of either ewe hoggs or gimmers.

Three good Wessex sows were purchased to help in building up the herd of pigs, and a number of home-bred gilts are being saved.

IV. Grass.

The new grass fields had an unfortunate time after June, with the hot, dry Summer and a considerable head of stock on them. This prevented their filling up in the way they would otherwise

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have done. Gt. Harpenden (Autumn sown, 1928) provided the earliest grass in the Spring, although the Winter killed many of the tender clover seedlings. New Zealand looked poor throughout the season and had many weeds. Of the older grass, Little Knott was easily the best, but in spite of its dense covering of clover and grass, it produced little more after June than the younger fields. Wild white clover and good grasses showed a distinct increase in Great Field. All the grass was topped as soon as flowering heads developed, and received 1 cwt. sulphate of ammonia at the end of the drought to help its recovery.

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