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Report for 1970 - Part1

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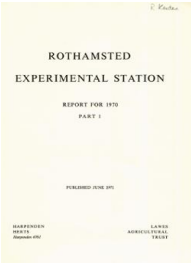

The Farms : Woburn

J. R. Moffatt

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WOBURN

At Woburn the small acreage of spring beans and cereals were sown reasonably early, but the dry summer seriously affected their growth and subsequent yield. Winter wheat and potatoes seemed unaffected and yielded well. Hay yields were small but quality was good. In the 6 months May–October the rain deficit exceeded 5 in.

The mild, dry autumn facilitated stubble cleaning and potato and sugar-beet lifting. Winter wheat was drilled early. Ploughing was delayed by rain in November but was finished before the end of the year.

A field of 8 acres has been rented from the Bedford Settled Estates to go into the light-land rotation in place of the field removed from the rotation because of wart disease. The field, which is weedy, was subsoiled and will be fallowed in 1971.

Effect of weather on crops

Early January was cold, and FYM was spread and ploughed in when the ground was frozen; the rest of the month was mild and wet, with rain falling on 22 days. February was wet but colder. About 9 in. of snow fell on 4 March, lay for more than a week and left the ground very wet. March was cold; the mean temperature was 5°F below average and there were 23 ground frosts. In mid-March work started on grassland, and on arable land a few days later. A wet spell soon stopped work but all beans and most of the barley were drilled by the end of the month.

April was mainly wet and cold but there was a fine spell at the end of the month. Rain fell on 22 days giving 1 in. above average; the mean temperature was 2·5°F below average. Spring cereal drilling was finished, sugar beet, grasses and clovers were sown and potato planting started.

May was dry and warm; rain fell on 9 days and was nearly 2 in. below average. The mean air temperature was 3·7°F above average. Potato planting was finished early in the month and herbicides were applied to cereals and potatoes. Heavy rain soon after drilling caused fine seedbeds for carrots and sugar beet to 'cap' badly and set hard. The heavy land cracked badly by the end of the month.

The fine, hot spell continued through most of June. 1·28 in. of rain fell in 8 days, mainly towards the end of the month; mean temperature was 3·1°F above average and hours of sunshine were 40 above average. Crops other than potatoes and winter wheat suffered from drought; spring cereals grew slowly and came into ear early on short straw; beans, after a good start, seemed to stop growing and flowered on very short stems; sugar beet and carrots grew slowly. A rather light crop of hay was made quickly.

In July hot and cold spells alternated, and mean temperature and hours of sunshine were all less than average. The rain came too late to do much good and all crops except potatoes and winter wheat looked poor.

Rain in August was average, and cereals were harvested between 10 and 26 August; beans were harvested early in September. September was dry and warm. Rain fell on 11 days and the total was 0·5 in. below average; the mean temperature was 1·9°F above average. Potato lifting started in mid-September and after an unbroken spell finished on 21 October. The dry, warm weather continued throughout October which had only eight wet days, with rainfall 1·5 in. below average, and a mean air temperature 1·5°F above. The small acreage of winter cereals was drilled in dry, loose soil. Sugar-beet lifting started in October and was finished early in November. This month was mild and wet; the mean air temperature was 3·1°F above average and rain in 20 days was

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almost twice the average. Some land work was done but the last of the ploughing was done in drier weather in December.

Field experiments

There were 1800 field plots, 294 fewer than in 1969. Winter cereals were sown early but germination was slow and irregular. Spring cereals were drilled rather late in cold, wet seedbeds. The few foliar diseases were patchily distributed; there was more mildew than in 1969 and there was no lodging. Cereal and root crops were harvested under excellent conditions.

Winter wheat grew well and Cappelle yielded slightly more than Joss Cambier. In this variety trial the mean yield was 54 cwt/acre, with Maris Beacon yielding most (59 cwt); the mean yield in a similar experiment in 1969 was 40·1 cwt. Yields were much less on other experiments. The grain/straw ratio in one experiment was about double that of 1969.

Barley crops were affected by drought and were variable, but mostly thin with short straw. The mean grain/straw ratio in three experiments was 2 : 1, whereas in 1969 the ratio in these experiments was 1 : 1. The mean grain yield of six experiments was 29·6 cwt/acre, 5 cwt less than in 1969. In a variety trial the mean yield of three varieties was 36 cwt/acre, 7 cwt less than in 1969. Treating the seed with ethirimol to control mildew increased yield by almost 3 cwt. Best yield was 38 cwt from Midas.

Bean crops suffered severely from drought and were miserable, with the mean yield of two experiments only 6·5 cwt/acre.

Potatoes were grown in 17 experiments all of which were handled without difficulty. They were planted rather late but grew well. Yields were good; in one experiment both Majestic and Pentland Crown exceeded 20 tons/acre, more than in 1969, but in other experiments yields were a little less.

Sugar beet, grown in four experiments, was sown on 20 April in fine seedbeds. Heavy rain soon after made the ground set hard and the plants emerged slowly and unevenly. Skylarks caused damage on one area and patches of the plots had to be resown. All areas were sprayed with 'Betanal', which controlled all weeds except mayweed; inter-row cultivations were needed to kill this weed and break the soil 'cap'. The crops grew slowly and at the end of July the leaves did not cover the ground. During late summer and autumn, growth improved and average yields were about 1 ton less than 1969.

Cropping

Of the 172 acres farmed 27 carried wheat, 36 barley, 23 potatoes, 12 beans and 2 sugar beet. There were small areas of sainfoin, carrots and rye. Temporary grass occupied 27 acres and permanent pasture 16 acres. There were 26 acres of fallow.

The light land is worked on a six-course rotation, and the heavy land on a four-course, to provide different intensities of soil-borne pathogens of cereals and to prevent those of potato and sugar beet reaching dangerous populations. 'Break' crops are potatoes, beans, ley or fallow.

The dry autumn was very suitable for stubble cleaning. Most of the stubbles were rotavated, deep-tine cultivated or sprayed with paraquat, or had more than one of these treatments, to check weed grasses and kill volunteer corn.

Magnesian limestone was used to lime the light soil, and ground carbonate the heavy land.

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Crops

Wheat. Joss Cambier was the main wheat variety, with Cappelle in two experiments. Most areas were drilled in October and though germination was slow and irregular the crop improved in the wet November. Some heavy land was too hard to work in October and drilling was delayed until after rain in November. One area after fallow was attacked by Wheat Bulb fly but grew away from the attack. The wheat grew well during the spring and summer and showed little effect of drought. There was no lodging. Field yields averaged 34 cwt/acre.

Barley. Zephyr was replaced by Julia on all but two experiments where Maris Badger was used; the seed was treated with 'Murganic/RPB'. The drought seemed to affect some areas more than others and yields ranged widely; the best yield was 38 cwt/acre. There was no lodging.

Beans. Maris Bead was grown on all but one area where Tarvin was grown. They were sown about the usual time and grew well during April and May, but suffered severely from drought later. Few of the plants grew taller than 12 in. which restricted the number of flowers. Stem eelworm infestations were negligible. Simazine and drought controlled annual weeds. Early aphids were few but a preventive spraying was done in mid-June. An increase in their numbers in July was too late to affect the yield which was very small.

Potatoes. Because of the presence of wart disease (*Synchytrium endobioticum*) in one field, King Edward potatoes are no longer grown. Few Majestic were grown because of their susceptibility to scab and few Pentland Dell because of their susceptibility to spraing. Pentland Crown replaced these varieties but Maris Piper was grown on land with potato-root eelworm. Some Desiree were grown but were badlly attacked by scab and were unsaleable as ware. Some Stock Seed and some Class A seed were bought from Northern Ireland and all were chitted. Weeds were controlled by spraying with linuron or a mixture of linuron/paraquat on rolled ridges, and an earthing up by rotoridger. The haulm also formed a dense ground cover. Two preventive sprayings were done against blight, the first including 'Metasystox' to control aphids; no blight occurred. The plants grew vigorously through the summer and showed no effect of drought, and there was still a lot of haulm when it was burnt off in September. Potatoes were lifted from dry soil and the Pentland Crown tubers were of even size and shape and almost free from scab. Desiree yielded 14 tons/acre, Maris Piper 13 tons, and Pentland Crown 18 tons.

Grassland. A high-nitrogen compound fertiliser was applied at 4 cwt/acre in March, and 'Nitro-Chalk' later in the season. Growth was slow in April but rapid in May. Some excellent hay was made quickly but aftermaths grew slowly. Grazing became plentiful in the late summer.

Cattle

Thirty young bullocks were bought in autumn 1969, and after a period at grass were brought into yards for winter. At various times during the summer they were transferred to Rothamsted for finishing.

In autumn 25 young cattle were bought and they were brought into yards at the end of December.

Buildings

A timber-framed barn, isolated from the main buildings, was built to store baled hay and straw.

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