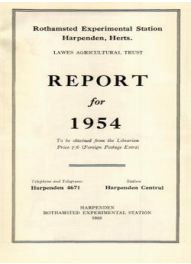
This work is licensed under a Creative Commons Attribution 4.0 International License.

Thank you for using eradoc, a platform to publish electronic copies of the Rothamsted Documents. Your requested document has been scanned from original documents. If you find this document is not readible, or you suspect there are some problems, please let us know and we will correct that.

Report for 1954

Full Table of Content


Rothamsted Experimental Station
Harpenden, Herts.

LAWES AGRICULTURAL TRUST

REPORT
for
1954

To be obtained from the Librarian
Price 7/6 (Foreign Postage Extra)

Telephone and Telegrams: Harpenden 4671
Station: Harpenden Central

HARPENDEN
ROTHAMSTED EXPERIMENTAL STATION
1955

The Farms : Woburn

J. R. Moffatt

J. R. Moffatt (1955) *The Farms : Woburn ;* Report For 1954, pp 163 - 166 **- DOI: https://doi.org/10.23637/ERADOC-1-76**

This work is licensed under a Creative Commons Attribution 4.0 International License.

worked very satisfactorily on both standing and laid crops, and enabled crops to be gathered which would otherwise have been written off as lost.

A tractor-mounted elevator potato digger was bought for use on experimental field plots, and after some initial difficulties, worked satisfactorily. The blade of the machine got under the first few plants in the plot rows more easily than did a similar trailed model, and turning time on headlands of these small areas was greatly reduced.

Several different types of mechanical hedge cutters were tried out during the year, the most satisfactory one being a tractor-mounted machine driven by an auxiliary engine, which needs a man to guide the knife. One of these machines was bought, and in addition to hedge cutting was used to cut kale for carting to stock.

Woburn

The Woburn Farm was directed and managed by the staff of the Rothamsted Farm, but the day-to-day work was planned by the bailiff at Woburn.

1954 was a very difficult year because of the very adverse weather conditions, but the full programme of work was successfully carried out. The effect of the cold, wet summer was less marked on the light land at Woburn than it was at Rothamsted, the main effects being on the root crops, where yields were reduced.

Of the 127 acres farmed, 24 acres were under wheat, 37 under barley and 21 under potatoes. One small piece (4 acres) of old permanent grassland was ploughed up and cropped with barley.

Continuing with the policy of bringing all the non-experimental land at Woburn up to a pH of about 6·5, another 22 acres were given an application of ground chalk at rates varying between 1 and 3 tons/acre.

The usual classical wheat and barley plots were continued, as were the long-term rotation experiments. Two of these latter, the Green Manuring Experiment and the Irrigation Experiment, underwent a radical revision, and an account of the changes made is given elsewhere. The winter cabbage crop, which needs a lot of labour for planting out and cutting, was eliminated from each of these experiments, and this considerably eased the pressure of work.

The programme of experimental field work was expanded this year to include a short-term experiment on winter wheat. There can be very little further expansion of cereal experiments at Woburn because of the difficulty in handling any more plots at harvest-time, unless the new technique involving the use of the combine-harvester is adopted. It is hoped that a self-propelled combine, which can be shared between the Rothamsted and Woburn farms, can be bought for the 1955 harvest. A considerable increase in the number of cereal plots will then be possible. This year the plots were threshed by the small drum, which was converted into a high-speed machine for this purpose. The main advantage of having this machine permanently at Woburn is that the work can be spread over a longer time and can be done when outside work is not possible.

Weather during the autumn of 1953 and most of January 1954 was very favourable to farm work. This mild, dry spell enabled the

This work is licensed under a Creative Commons Attribution 4.0 International License.

field work to be carried on without interruption, and by the time the hard weather set in at the end of January, field work was almost completed. The mild autumn induced a large number of weed seeds to germinate, and the small areas of winter wheat were more weedy than usual. On several areas scheduled for spring crops, two and three ploughings were done to destroy these weeds. During this fine spell the opportunity was taken to get the farmyard manure applied and ploughed in for the 1954 potato crops.

The preparation of seedbeds for spring-sown crops started in the second week of March, and the corn drilling was completed before the end of the month. April was very dry, the total rainfall being less than ¼ inch, and the planting of potatoes and the drilling of sugar beet was completed by the middle of the month; the various grasses and clovers were also sown under good conditions during this dry spell, which lasted into early May, and most of the corn crops were sprayed with DNOC or MCPA. Germination and growth of all crops, including grass, were retarded by this cold, dry spell.

During each of the four summer months, May to August, the rainfall was well above the average, and was spread over most days of each month; there were about 50 hours less sunshine in each month, and the mean temperature was several degrees below normal. These conditions, besides making the hay harvest extremely long and tedious, made the control of weeds more difficult, encouraged the spread of disease and retarded the ripening of the crops.

The cereal crops, most of which were spring sown, generally looked promising throughout the summer. Despite the heavy rainfall and fairly generous applications of nitrogenous fertilizers, the Herta and Proctor barleys remained upright, as did the Atle wheat. Serious lodging occurred only on some of the experimental plots. Bird damage was greatly reduced this year, and the only serious loss was a 2-acre piece of non-experimental winter barley, which ripened long before any of the other crops.

Harvest operations started in the third week of August, about 3 weeks later than usual, and, though somewhat protracted by unsettled weather, were finished 4 weeks later. The work was facilitated by the fact that very little lodging occurred. All the cutting was done by binder, and most of the corn was stacked in Dutch barns at the farmstead.

The permanent wheat and barley plots were very weedy, and crop growth was seriously affected. On some of the plots only small areas could be harvested. The wheat area was sprayed with both DNOC and MCPA, and not only was twitch (*Holcus mollis*) unaffected, but knawel (*Scleranthus annuus*) and sheep's sorrel (*Rumex acetosella*) seemed to suffer only a temporary check. It has been decided to fallow this area in 1955. In an attempt to reduce the twitch (*Agrostis gigantea*) on the permanent barley area the land was ridged during the winter, and then the elevator potato digger was used to separate the rhizomes from the soil. They were then forked up and carted off. Although a lot of the weed was removed by this method, much remained, and of course spurrey (*Spergula arvensis*) was present in large quantities, as usual. No herbicides were used, but despite the very weedy state of the area, it has been decided to crop it again in 1955, after an application of ground chalk to bring up the pH to about 6·0.

This work is licensed under a Creative Commons Attribution 4.0 International License.

After a slow start the maincrop potatoes maintained satisfactory growth during the summer, despite the lack of sun. The variety Majestic was grown on all experimental areas and some non-experimental ground, but King Edward VII was grown again on 6 acres after an interval of many years. As weather conditions were very conducive to Late Blight, all areas were sprayed three times with a copper fungicide, and the King Edwards were given an additional early spraying. Yields of both varieties were satisfactory, and the tubers were less affected than usual by scab. Weather conditions were reasonably kind for lifting, which started within a few days of the completion of the corn harvest and lasted nearly three weeks. The crop was stored under cover at the farmstead.

The small area of sugar beet was the most disappointing crop of the year. It was drilled at the end of March and early April, and so felt the full impact of the drought during April. Germination was very slow and uneven, and some plants had reached the singling stage while others were just appearing above ground. Subsequent growth was slow, and the plants suffered a further setback from a severe attack by the mangold fly (*Pegomyia betae*), against which spraying had to be done. Crop yields were low, as was the sugar content.

By the end of October the harvesting of the root crops was completed, and all except one of the small areas of experimental winter corn were drilled. However, before much autumn ploughing could be done the weather broke, and in November over 4 inches of rain were spread over 23 days. Dung carting and ploughing went on intermittently during November and early December, but a fine, dry spell just before Christmas gave considerable impetus to this work.

There is still quite a lot of winter ploughing to be done, mainly on the heavier fields, and this work has seldom been so far behind schedule as this year. One of the heavy fields which was waterlogged for many years was mole drained in the autumn into tiled main drains.

The grassland greatly benefited from the wet summer and, after a late start due to the April drought, maintained good growth throughout the season. The usual burning up on the light land in July and August did not occur. The new ley undersown in 1953 was very productive and, after a heavy hay crop, provided a lot of aftermath. In fact, extra cattle had to be bought to graze it. There was a good bulk of hay, but weather conditions delayed cutting until the latter half of June, by which time the grasses were at a rather forward stage of growth. The cold, wet weather made haymaking a difficult operation, and though no hay was first class, none was spoilt. Some of the hay aftermath showed signs of acute nitrogen deficiency, despite a top dressing of 2 cwt./acre "Nitro-Chalk".

Livestock

Cattle

The cattle policy at Woburn consists of buying in young store cattle in the autumn, overwintering them in yards to make farmyard manure, and fattening them from the grass during the summer and

This work is licensed under a Creative Commons Attribution 4.0 International License.

autumn. Devon cattle were bought in the autumn of 1953, and after the yard had been filled early in 1954, the remainder were outwintered. They were sold fat during the summer, and a small bunch of forward Hereford-cross cattle were bought in the early autumn to finish off on the plentiful supply of grass.

Pigs

The Large White pig herd was maintained at ten breeding sows, which are replaced as necessary by gilts of our own breeding. Most of the pigs were run on to bacon weights, only those making small liveweight gains being sold at an earlier stage. Grading results were reasonably satisfactory; of 135 pigs sent to the bacon factory 66 per cent were in grade A and 25 per cent in grade B.