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The Farms : Woburn

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LOCAL SHOW SUCCESSES.

At the local ploughing match the two horse men secured two 1st and two 2nd prizes, and two tractor drivers received 2nd and 4th prizes.

At the local Christmas Fat Stock Show 1st and 3rd prizes were secured for fat cattle.

Woburn

The work at the Woburn Farm was directed and managed by the staff of the Rothamsted Farm, and though the farms are about 25 miles apart the system worked satisfactorily.

The number of field experiments carried out was again restricted by the shortage of permanent staff. A total of 498 experimental plots were laid out and drilled, but an extremely heavy infestation of spurrey necessitated the 12 plots of the Permanent Barley area being ploughed in during the summer. Of this total all except 40 plots were either classical experiments or modern long-term experiments.

The area farmed remained at 127 acres, of which 60 acres were under cereal crops, 33 acres under sugar beet or potatoes, 24 acres under grass and the remainder under experimental crops and fallow. The Woburn soil is well suited to the growth of potatoes and sugar beet, and the acreage devoted to these crops is as large as can be handled in a district where labour conditions are difficult.

The mechanization of field and farmstead operations and the re-equipping of the farm with modern implements, was carried a stage further during the year. New implements included a tractor-mounted hoe, a sugar beet topper and a tractor-mounted beet digger. After some initial difficulties these machines worked reasonably well until very bad weather conditions made it impossible to use them. The narrow row spacing (18 in.) increased the difficulties with the tractor-mounted machines, and a wider spacing of rows will be used in future. A reversible mounted plough was used during the year, making possible the cross-ploughing of the steeply sloping fields and eliminating the ridges and furrows on experimental and potential experimental areas. The mechanization of most of the operations on the farm enabled a very small permanent staff to carry through a somewhat larger programme of experimental work than in 1949, as well as a large area of labour-consuming crops, with less reliance on part-time workers. It is hoped to complete the mechanization in 1951 by the introduction of a small combine-harvester for non-experimental crops, and later to use a specially designed machine for harvesting experimental corn crops.

A much-needed new Dutch barn was erected at the farmstead during the year and this greatly increased the area of covered storage and working space. A range of open-fronted implement sheds and tractor garages was also erected which enables the implements to receive proper attention during storage. The one cottage let with the farm was modernized.

The facilities for the preparation and mixing of rations for livestock have been greatly improved by the provision of an automatic grinding mill, a food mixing machine and an electric pig food

boiler, This machinery will, it is hoped, reduce the time spent on the livestock, and enable better use to be made of home-grown feeding stuffs and unsaleable vegetables.

The weather during the winter of 1949-50 was generally mild, and rainfall was below normal in December and January. This enabled dung carting and ploughing to be carried out, and land work was well up to schedule by the time the weather broke towards the end of January. Conditions during March and early April were excellent for the preparation of spring seed beds, and spring corn crops were sown reasonably early. The planting of the sugar beet and potato crops followed immediately and although germination was rapid, subsequent growth was delayed by cold weather during May. This month saw the beginning of a very wet summer with a rainfall in the 6 months April-September of over 7 inches above the average. The farm was within the heavy storm area of 21st May when $1\frac{3}{4}$ inches of rain fell in under 3 hours. This caused quite severe erosion in fields not under grass or corn crops, and in some places gulleys were made over 3 feet wide and 4 inches deep. In some fields seed potato tubers were exposed by the washing away of the ridges, while on low-lying patches of sugar beet the plants of beet completely disappeared under silt and debris.

These conditions led to rapid growth of all crops but caused serious interference to all inter-row cultivations. Corn crops made too much straw, but looked very well until early July. Very heavy rains then caused much of the wheat and barley to lodge, and they never recovered, but fortunately very little lodging took place in the experimental corn crops. The lodged crops and the wet weather made conditions very difficult for the corn harvest but all the crops were eventually harvested in reasonable condition.

Potatoes made very rapid growth, especially during July and August, but the wet weather caused a very early and severe attack of Late Blight, which necessitated spraying. This was effective in retarding the spread of the disease but the haulm appeared to mature and turn yellow unexpectedly early in September. The tops were burnt off with sulphuric acid as soon as the ground could carry the equipment. Unfavourable weather delayed the start of lifting, but a dry spell in October enabled the crop to be lifted and carted under good conditions. The crop was stored to a depth of 12-14 feet in buildings at the farmstead to provide productive wet-day work. The estimated yield was approximately 12 tons per acre, with a high proportion of ware. The tubers were less damaged by cut-worm and less affected by scab than usual.

The wet season also favoured the sugar beet crop, which made rapid growth. There was far less virus yellows disease than in 1949, and bolters were negligible. Weeds grew rapidly and some difficulty was experienced in keeping them under control, especially as the ground had set so hard following the very heavy storm in May. The heavy crop (approx. 12 tons per acre) and bad harvesting conditions during the early winter considerably delayed the completion of lifting, but the work was accomplished by the regular farm staff.

The small areas of experimental market garden crops did well, though the red beet had far more bolters than usual, while the weather conditions made it impossible to keep on top of the weeds in the green pea crop. One area of January King cabbage suffered

severely from an attack by Club Root (*Plasmodiophora brassicae*) the fungus presumably being favoured by the wet soil conditions.

The appearance of the main experimental field (Stackyard) was greatly improved during the year by the felling of many dying trees and by the cutting and layering of the overgrown hedges.

Throughout the year the work of the Woburn Farm suffered owing to the shortage of farm workers. This is a result of the lack of cottages on the farm and the proximity of a large industrial concern. This shortage of permanent staff limits the amount of experimental work which can be undertaken and it is difficult to see how the position can improve unless houses become available to enable a suitable permanent staff to be engaged. Most of the seasonal work such as hoeing, singling and weeding, much of the haymaking and nearly all the planting out of experimental market garden crops was done in the evenings and at week-ends by casual workers. These are very unsatisfactory methods of working experimental plots.

The small herd of Large White pigs was maintained, and some fresh breeding stock was purchased during the year. The progeny were all carried on to bacon weight and were fed mainly on purchased feeding stuffs and brock potatoes. The new food-preparing machinery recently installed will, it is hoped, enable the pigs to be fattened very largely on home-produced foods. The very satisfactory maturity indices of the fat pigs were evidence of the satisfactory growth rate.

A small bunch of cattle were out-wintered, living mainly on sugar beet tops and straw. They were fattened on the grass in the early part of the summer. A larger bunch of Irish cattle was purchased in the late summer to consume beet tops and straw, and to make farmyard manure in the yards.