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## Rothamsted Report for 1951

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### The Farms : Woburn

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Nitrogenous top-dressings were applied both to winter and spring cereals much later than usual, because drilling and planting were given precedence. These late applications of nitrogen unfortunately co-incided with a dry spell and did not get washed in for some time, and when they later became available to the plants, the dressings proved inadequate, presumably due to the heavy leaching of nitrogen from the soil during winter and spring. A second application was therefore given to winter corn but this appeared to have little effect. Many of the corn crops were consequently disappointing.

The permanent wheat looked quite well throughout the year but the effect of different levels of "Nitrochalk" was not nearly as clear as usual. Some wild oats appeared but these were hand-picked. The area was sprayed with D.N.O.C. at medium volume at a rather late stage of growth, and with rather disappointing effects, especially on mayweed. The Permanent Barley ground was smothered by spurrey and the crops made little headway against the weed. Spraying with D.N.O.C. had very little effect and many of the plots were abandoned.

The corn harvest began very late and because of bad weather conditions became a very difficult and protracted operation continuing intermittently until the end of September. It had been hoped to thresh much of the corn in the field but the weather conditions made this impossible. One field of spring barley was not cut until the middle of September and even then it was far from ripe.

The weather throughout June and much of July was dry, and this considerably delayed the transplanting of the winter cabbage and leeks on experimental areas, and retarded the "take" of these crops. Several patchings were needed before a full plant was secured.

The experiment on market garden crops underwent a revision this year by the elimination of the pea crop. Three crops instead of four are now grown in two years, the new rotation being red beet, spring cabbage and leeks. It is fortunate the change was made this year as it would have been impossible for two crops to grow to maturity. The spring cabbages in this experiment were severely damaged by leather jackets, and the whole area had to be sprayed with D.D.T. before a full plant could be established, despite several patchings.

A large area of non-experimental potatoes was grown, planting being done by a dropper attached to the frame of a 3-row ridger. The crop made fairly rapid growth throughout the summer, and was kept clean entirely by mechanical operations. Two sprayings against Late Blight (*Phytophthora infestans*) enabled the crop to maintain growth until the end of September when the haulm was burnt off with sulphuric acid. Lifting operations were carried out under excellent weather conditions until towards the end of October, but heavy rain throughout November prevented the completion of this work until early December. Three severe frosts early in December penetrated to a fair proportion of the tubers in the soil. The tubers seem to be more severely affected by Common Scab

(*Actinomyces* sp.) than usual. Despite the precautions taken there was also some blight in the stored tubers.

The non-experimental sugar beet crop made good growth after a very late start and there was very little infection by Virus Yellows disease. However, there was a high proportion of leaf to root, and yields were lower than was anticipated. Most of the area was harvested mechanically with reasonably good results. The sugar content averaged about 16 per cent.

A new experiment testing three levels of overhead irrigation with no irrigation on a rotation of farm crops was started in the spring. The rotation is early potatoes followed by winter cabbage, barley, and sugar beet, each crop being grown every year. A fourth crop is a 3-year grass ley cut several times each year when 4-6 in. high. The plots are split for testing two levels of nitrogenous fertilizers. The experiment made a very satisfactory start, all crops growing and yielding well.

The autumn ploughing for winter corn was well advanced and all experimental plots were drilled before the weather broke again during the last week of October. Some non-experimental areas had also been drilled, but the bulk of the winter wheat was planned to follow potatoes. The wet weather which persisted throughout November and well into December ruled out this possibility and changes in the cropping plans for 1952 had to be made.

The small herd of Large White pigs was increased slightly during the year by retaining a few home-bred gilts for breeding purposes. All the progeny were carried on to bacon weight; they were fed largely on barley grown at Rothamsted or Woburn, and home grown stockfeed potatoes. The maturity indices and grading were very satisfactory but the killing-out percentage was in many cases rather low.

Some of the Irish cross-bred bullocks were out-wintered, while others were yarded to make farmyard manure. They were fed almost exclusively on sugar beet tops, and straw, with a small supplement of sugar beet pulp and offal grain. Half of them were fattened off from the grass at Woburn, the remainder being transferred to Rothamsted.