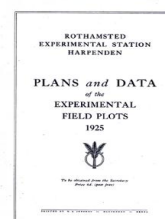


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Plans and Data of the Experimental Field Plots - 1925



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The Field Work at Rothamsted

Rothamsted Research

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The Field Work at Rothamsted

UNDER LAWES & GILBERT, 1843-1901.

The field experiments were begun at a time when farmyard manure was the best known agent for maintaining the fertility of the soil under tillage conditions, though others, such as bones, were also used. Supplies, however, were insufficient ; knowledge was, therefore, needed of the sources of the food supply of plants and the fertiliser requirements of the common farm crops.

In order to get this knowledge one field was assigned to each crop and divided into a number of plots, each receiving a different manurial treatment. Each field was drilled year after year with the same crop, and every plot received annually the same quantity of the same manures. Systematic observations were made of the yields under the varying conditions, while information was also obtained as to the chemical composition of the crop.

These classical fields are still maintained under their original treatments and present an unrivalled series of demonstration plots, as well as material for much fuller investigation ; they are—

BROADBALK FIELD	...	11 acres	Continuous Wheat since 1843.
HOOS FIELD	...	5½ "	Barley " 1852.
BARN FIELD	...	8 "	Roots " 1843*.
			Mangolds since 1876.
PARK GRASS	...	7 "	Grass for Hay since 1856.
AGDELL FIELD	...	3 "	Four Course Rotation since 1848.

* A break in 1853-55 when barley was grown without manure.

The outcome of this early work was the introduction of superphosphate, sulphate of ammonia, and nitrate of soda as manures ; the working out of the correct and economical use of these substances ; and the realization that judicious artificial manuring could do much to supplement and economise farmyard manure.

The loss of nitrates which occurred from land not carrying a crop during the wet periods of the year was demonstrated and the costliness of bare fallows was thus proved.

UNDER A. D. HALL, 1902-12.

During this period much attention was given to the use of lime on arable and on grass land. The loss of lime from the soil by drainage was shown to be related to the manurial treatment, and it was demonstrated that certain manures, notably sulphate of ammonia and superphosphate, exert their best effect only when the soil contains sufficient lime. Certain of the Park Grass Plots were divided transversely into a limed and an unlimed portion, and valuable information was obtained concerning the effect of lime on land laid in for hay.

The residual values of farmyard and of artificial manures were investigated. Little Hoos field in 1904 was divided into plots and cropped on a rotation in such a way that the effect of manurial residues could be observed. This experiment is still continued.