ROTHAMSTED RESEARCH

Rothamsted Experimental Station Guide

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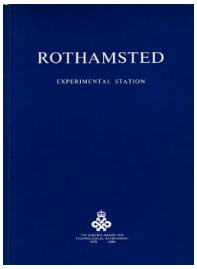

Introduction

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INTRODUCTION

Rothamsted Experimental Station, founded in 1843 by John Bennet Lawes, is the oldest agricultural research station in the world and one of the largest, with a total staff of about 800. It is situated on the Rothamsted estate, where its founder was born in 1814. The magnificent old Manor House had been the home of Lawes's ancestors for 200 years. Now it is used as a residential hostel for members of staff and visiting workers.

As a young man Lawes was aware of food shortages and widespread poverty in England following early industrialisation and foresaw the need to raise the general level of agricultural practice. He had acquired a deep interest in chemistry and, in 1842, he patented a new method for producing superphosphate and started the Lawes Chemical Company to manufacture this and other 'manures'. In the following year he engaged the services of J. H. Gilbert, a chemist of similar age, and together they developed field experiments to relate crop growth to the chemical composition and manurial treatment of soil. This collaboration lasted 57 years and established many of the present concepts of plant nutrition. Wheat was used in the first experiment, laid down on Broadbalk field, and experiments with barley, root crops and permanent grass followed on other fields of the home farm. All still continue with small modifications and form the basis of the 'Rothamsted Classical Experiments'. They are now supplemented by many annual and some newer long-term experiments.

For long the Station was financed wholly by Lawes, at first directly but after 1889 from a benefaction of £100 000 placed under the stewardship of the Lawes Agricultural Trust Committee who became the Station's Governing Body. The Trust Committee members are appointed by the Royal Society of London, the Royal Agricultural Society of England, the Royal Society of Chemistry, formerly the Chemical Society, and the Linnean Society. Research was supported entirely by the Trust fund until 1911, but from that year the work has depended increasingly on support from public funds and now is largely financed by annual grants from the Agricultural Research Council.

Lawes died in 1900, and during this century there has been a steady increase in the number of scientists working at Rothamsted. The Station's research, at first mainly chemical, is now much broader and involves almost all scientific disciplines applicable to crop improvement, except traditional plant breeding. This range of work is divided amongst the departments whose programmes are outlined briefly in this booklet. The Field Experiments Section acts as co-ordinator between the departments and the Farm in the conduct of field experiments and is also responsible for dealing with visitors. Rothamsted is also the headquarters of the Soil Survey of England and Wales and houses the Commonwealth Bureau of Soils.

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Broom's Barn Experimental Station in Suffolk, a department of Rothamsted Experimental Station, is responsible for much of the research effort on sugar beet. The work is financed by the Ministry of Agriculture's Sugar Beet Research and Education Committee (SBREC). In 1959 the Lawes Agricultural Trust Committee bought Broom's Barn Farm (73 ha) with money granted by SBREC and built the present laboratories; the work previously done at the Dunholme Field Station was transferred there in 1962.

The Rothamsted estate extends to 330 hectares (813 acres), a small proportion of which carries woodlands. About half the land is suitable for field experiments. The Lawes Agricultural Trust Committee is also responsible for the Woburn Experimental Station (76 ha) in Bedfordshire, and the small Saxmundham Experimental Station in Suffolk.

Rothamsted's role is entirely in research; it does not teach formal undergraduate courses in agricultural science. However, suitably qualified people can undertake postgraduate research at Rothamsted under schemes which allow them to register for higher degrees at London or certain other Universities.

This booklet presents a brief account of the laboratory-based research; short descriptions of the work of each scientific department appear in the early pages of this new version. A few of the long-term experiments at Rothamsted are described in detail and there are sections on the soil and cropping of the Rothamsted Farm. More detailed information about the work and results appears in Annual Reports of the Station, obtainable from the Librarian. A list of other Station publications is given on page 71.

The Staff List, Plan of Station, and up-to-date information on the work of the departments and changes in the field experiments occurring since this booklet was printed are to be found in the pocket of the back cover.

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