

Excursion to Rothamsted Research, Harpenden (UK) in 2009

Huub Schepers



APPLIED PLANT RESEARCH
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Excursion Rothamsted (UK) 2009

- 11 participants
- 28-29 May 2009
- Travel sponsored by KNPV
- Presentations on cereal research and field visit to the Broadbalk Experiment (running for 165 years)

The screenshot shows the Rothamsted Research website with a navigation menu (About us, Resources, Research, Into practice, For the public, Careers) and a BBSRC logo. The main content includes a header about world-class science for sustainable land management, a search bar, and sections for Science Links, Patron (Her Majesty the Queen), Public Events (Manor Recital, Open weekend), and Conferences and Meetings (Biochar Conference). A diagram titled 'New Rothamsted Research Centres web site' shows a central 'Bioenergy and Climate Change' hub connected to 'Crop Genetic Improvement', 'Mathematical and Computational Biology', and 'Soils and Ecosystem Function'. A vertical photo of a field is on the right, and social media sharing options are at the bottom.



Plant Pathology & Microbiology

- Pathogen population biology & disease management
 - Cereals: leaf blotch, eyespot
 - OSR: stem canker, leaf spot
- Wheat pathogenomics
 - Defining function of both plant and pathogen genes
- Fungicide Research
 - Strobi and triazole resistance using data from the Broadbalk experiment

Plant Pathology and Microbiology

Head of Department: **Professor John Lucas**

The Plant Pathology and Microbiology Department aims to develop effective, durable, economic and environmentally sound strategies for the control of crop diseases through an improved understanding of the interactions between plants, pathogenic agents and the environment. The research ranges from fundamental work on how pathogens cause disease, using the latest genomic approaches to identify genes and processes involved in pathogenicity, to applied projects on the diagnosis and practical management of diseases in the crop. Biological, genetic and chemical methods of disease control all feature in the Department's portfolio.

Programmes

- Pathogen Population Biology and Disease Management
- Wheat Pathogenomics
- Rhizosphere Biology

Departmental units

- Nematode Interactions Unit
- Centre for Bioimaging
- Global Plant Clinic

Science Links

- Plant Pathology and Microbiology home page
- Who's who in PPM
- Genetic Improvement Networks
- Past and disease gallery
- Plant pathology links
- General links
- Vacancies within PPM Department

RSS Rothamsted RSS news feed (What is RSS?)

Disclaimer

Make comments

BBSRC bioscience for the future

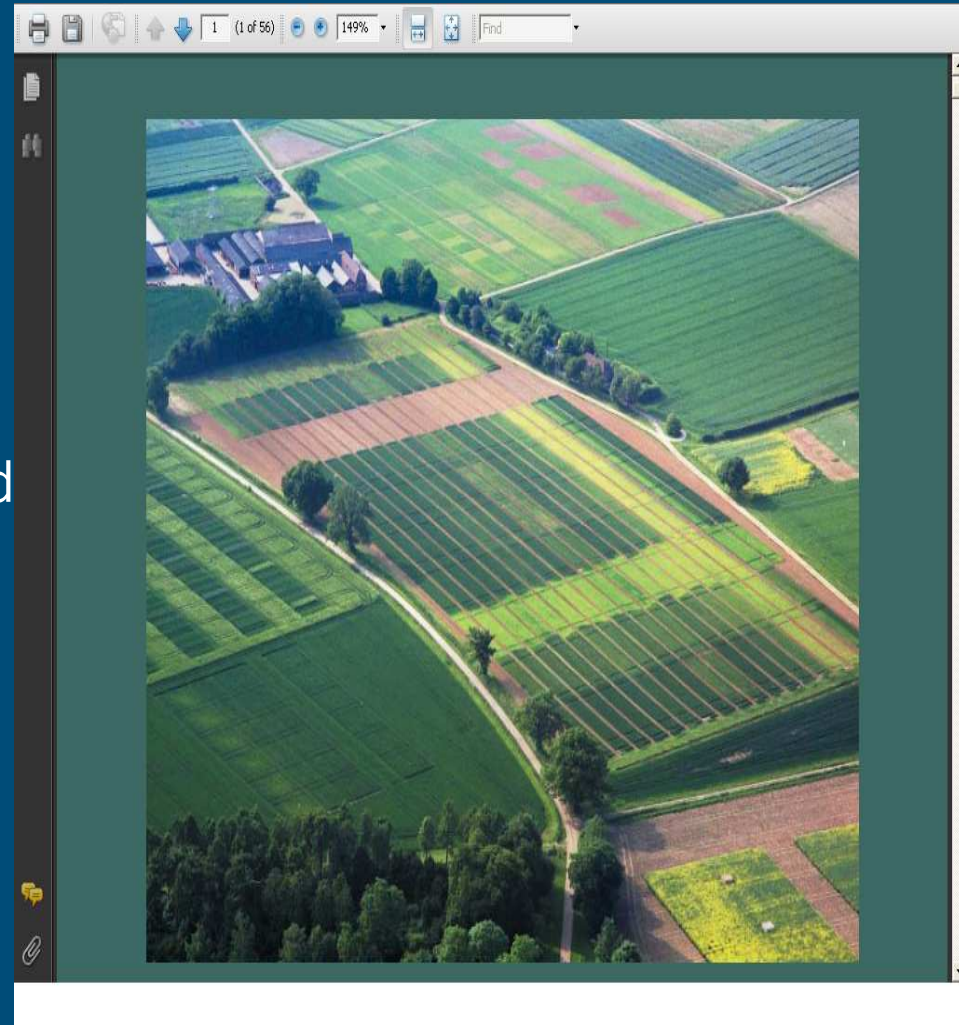
This image is chosen randomly from a collection

SHARE



Long-term experiments

- Broadbalk Winter Wheat
 - Started in 1843 and since then winter wheat has been grown each year!
 - Straw and grains are all stored
 - Tests the efficacy of inorganic fertilizers and manure
 - Study the long-term incidence of cereal pathogens and fungicide resistance



The Manor



Broadbalk Experiment

Analyses of archived material continue to provide insights into changes occurring over more than 160 years.

The collection of long-term datasets is not confined to the field experiments. Meteorological measurements have been made since the 1850s when James and



Archived samples



the Environmental Change Network
> 40 freshwater sites across the UK

THE BROADBALK EXPERIMENT

This experiment is the oldest continually running field experiment in the world. It was set up in 1843 to study the impact of different fertiliser regimes (inorganic and manures) on wheat yields and soil health. In the experiment's early days it was ploughed by teams of horses and harvested by hand. Today, the experiment is used by scientists to investigate plant nutrition, nitrogen cycling and much more.

Sections 0, 1, 6, 8 & 9 of the field are sown continuously with wheat and sections 2, 3, 4, 5 and 7 have wheat grown in rotation with other crops. Section 0 has wheat straw incorporated into the soil. Fungicides and insecticides are withheld from row 7. Weedicides are withheld from row 8 and this row hosts popples, mayflowers and the occasional rare plant, such as corn cleaver. The plots receive various fertiliser treatments including farmyard manure (FYM), no fertilisers (nil) and full nutrients (all).

In 1882, the far end of the field was left to compete with the weeds. Within four years all the wheat was gone. The left hand side, which has been left untouched, is now mature woodland, Broadbalk Wilderness. The other sections have bushes grubbed out or are grazed by sheep and have developed distinctive flora.

Find out more about Rothamsted and its long term experiments at www.rothamsted.ac.uk



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Stackyard trials





Thanks for your attention

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