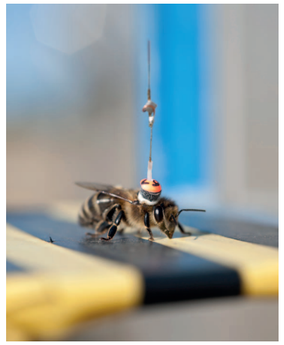
The most ambitious of field studies

Based in Hertfordshire and Devon, Rothamsted Research's pioneering work has yielded impressive results since 1843



In a collection of low-rise buildings and neat plots surrounding a former manor house in leafy Harpenden, Rothamsted Research continues a programme of agricultural research that began more than 170 years ago.

The Broadbalk experiment has been running continuously since 1843 and is the world's oldest uninterrupted agricultural test programme. It was established to monitor the effects of manures and inorganic fertilisers, and still produces valuable information to this day.

For all of its past achievements, however, Rothamsted remains focused on the future. "We are in the innovation business," says Professor Achim Dobermann, the institute's Director. "Rothamsted is working on a wide range of solutions for a better and more sustainable agriculture in the future."

Optimising crop yields

To this end, the research institute has based its current scientific strategy on four main programmes. 20:20 Wheat is targeted at increasing wheat productivity to deliver a yield of 20 tonnes per hectare over 20 years. Cropping Carbon aims to optimise carbon capture through cultivation of grasslands and perennial energy crops, such as willow. The Designing Seeds programme uses, for some of its projects, biotechnology to deliver improved health and nutrition by exploring refinements to grain.

Rothamsted's fourth programme, Delivering Sustainable Systems, attempts to fulfil a key global aim for many scientists, policymakers and food producers —to increase agricultural yields while minimising pressure on the environment. The institute plays a key role thanks to its research in areas such as pest control, biodiversity, grazed grassland and managing soils.

A research institution

Rothamsted Research has unique resources and facilities that make it possible to carry out

"Rothamsted Research is working on a wide range of solutions for a better and more sustainable agriculture"

cutting-edge research on innovations for future agriculture. These range in scale from single insects to nationwide approaches and from lab work to landscape-level initiatives.

"We run the country's first insect surveillance network, tracking 50 years of changes to the moth and aphid populations," says Professor Dobermann. "We also have a set of radars that help to support research into monitoring insect migratory behaviour at high altitudes, and insect-flying behaviour in the landscape." The institute also has a unique grassland-management system for sustainable livestock production at its North Wyke site in Devon. The substantial data sets that this delivers over the long term could lead to an array of practical solutions for farmers for years to come.

The work carried out by the forerunners of the current Rothamsted Research team is very much connected to that being done today. "One of the key things about Rothamsted is that for nearly 100 years it has combined theory with experimentation," says Professor Dobermann. "Our predecessors invented a whole new theory and practice of experimental design and statistical analysis. Over the years we continued that into modelling and mathematical applications."

Rothamsted's high-quality, outcome-oriented research makes it an attractive partner for industry and research collaborations. However, it safeguards its integrity by having a wide range of funders and establishing diverse collaborations.

"We are an independent charity, funded through various sources," says Professor Dobermann. "We are not affiliated to any particular political party or any private interests. Our aim is to address the grand challenges of agriculture now and in the future."

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