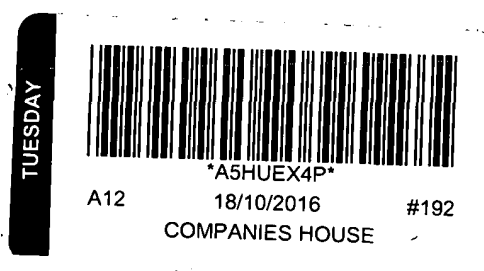


Rothamsted Research Limited

ANNUAL REPORT AND FINANCIAL STATEMENTS

for the year ended

31 March 2016



Rothamsted Research Limited

CONTENTS PAGE

Legal and Administrative Information	2
Trustees' Report (incorporating the Strategic Report)	3 - 21
Statement of Trustees' Responsibilities	22
Independent Auditor's Report	23
Consolidated Statement of Financial Activities	24
Charity Statement of Financial Activities	25
Balance Sheets	26
Consolidated and Charity Cash Flow Statements	27-28
Accounting Policies	29 - 32
Notes to the Financial Statements	33 - 52
Income and Expenditure Accounts	53

Rothamsted Research Limited

LEGAL & ADMINISTRATIVE INFORMATION

DIRECTORS

Professor Sir John Beddington (Chairman)
Professor Richard Bardgett
Professor Sir David Baulcombe
Mr Russell Brooks*
Mr Oliver Doubleday
Professor Charles Godfray
Dr Stuart Jarvis*
Dr Alastair Leake
Mr Paul Leonard
Ms Sally Smith* (Deputy Chairman)
Professor Michael Winter

* - Member of Finance and Audit Committee

CHARITY NUMBER: 802038

COMPANY NUMBER: 2393175, a company registered in England and Wales

REGISTERED OFFICE

Rothamsted Research Limited
Harpenden
Hertfordshire AL5 2JQ

AUDITOR

RSM UK Audit LLP
St Philips Point
Temple Row
Birmingham B2 5AF

PRINCIPAL BANKERS

Barclays Bank
22-24 Upper Marlborough Road
St Albans
Hertfordshire AL1 3AL

PRINCIPAL SOLICITORS

Mills and Reeve LLP
Botanic House
100 Hills Road
Cambridge
CB2 1PH

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

The Directors submit their Annual Report together with the audited Financial Statements for the year ended 31 March 2016. Further information can be found at <http://www.rothamsted.ac.uk/>

STRUCTURE, GOVERNANCE AND MANAGEMENT

Directors and Officer

The Directors, who are also the Trustees, the Institute Director and Officer of the Company, who served throughout the year except where indicated below, were as follows:

Directors

Professor Sir John Beddington (Chairman)	
Professor Mark Bailey	Resigned 12 May 2015
Professor Richard Bardgett	
Professor Sir David Baulcombe	
Dr Graham Birch (Deputy Chairman)	Resigned 12 May 2015
Mr Russell Brooks	
Mr Oliver Doubleday	Appointed 9 February 2016
Ms Caroline Drummond	Resigned 12 May 2015
Professor Charles Godfray	
Dr Stuart Jarvis	
Dr David Lawrence	Resigned 12 May 2015
Dr Alastair Leake	Appointed 12 May 2015
Mr Paul Leonard	
Ms Sally Smith	
Professor Michael Winter	

See also: <http://www.rothamsted.ac.uk/about-us/corporate>

Institute Director

Professor Achim Dobermann

Officer

Company Secretary: Louise Warren

Constitution

Rothamsted Research Limited (the Institute or the Company or RRes) is a charitable company which is limited by the guarantees of its members to a maximum of £1 each and which is regulated by the terms of its Articles of Association. The company Registration Number is 2393175. The Company is also a registered charity, number 802038 and, as such, is not usually liable to taxation on income arising from and expended on its charitable activities.

Appointment of Trustees

Advertisements for Trustee-Directors are placed in relevant national press – including “Farmers’ Weekly”, “Nature” and “Sunday Times” as well as various on line media, inviting the submission of letters of interest and curricula vitae. These are then considered by an appointments panel nominated by the Board and composed of two or three Trustees taking into account overall balance of skills and experience, vacancies and future needs or pressures on the Board. Potential appointees are invited to visit Rothamsted campus to meet the Institute Director and others as appropriate.

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

Trustee Induction and Training

New Trustee-Directors are offered training opportunities with good quality national providers identified by mutual agreement. This ensures that the Board are all fully aware of the latest position on relevant Company and Charity law, regulations and good practice especially in the context of Rothamsted Research Limited and the current decisions that it faces. Induction and training for new Trustee-Directors will be carefully tailored to the needs of the individuals concerned with special consideration of the issues that the group faces in the coming months.

Third Party Claims

The group holds Directors and Officers insurance which will indemnify the Directors against claims from third parties.

Organisation

The Board of Directors is responsible for the management of the Company in accordance with the Company's Memorandum and Articles of Association. The Articles were revised (and there is no longer a Memorandum) by General Meeting on 3rd October 2011, and a Special Resolution amending the Articles made by General Meeting on 10 December 2013.

There may be between 9 and 15 sitting on the Board of Directors, with Lawes Agricultural Trust ("LAT") and Biotechnology and Biological Sciences Research Council ("BBSRC") each providing an Observer at Board meetings and each nominating one Director. The Chairman of the Board is jointly nominated by LAT and the BBSRC. All directors are appointed to serve on an *ad hominem* and non-executive basis and, except for the Chairman, do not receive any remuneration; consistent with this position the Board of Directors advises on the development of strategy and policy. The Institute Director reports to the Chairman and Trustee Directors of Rothamsted Research.

The relationship of the Company with its major funding body, the Biotechnology and Biological Sciences Research Council, is defined by the terms and conditions of an Institute Grant Agreement. The Members of the Company are LAT and BBSRC plus the Chairman of RRes being a single natural Member and they have signed a Members' Agreement. The role of these members is defined through a Members' Agreement that describes how this tripartite arrangement recognises the contribution in land (LAT) and funding (BBSRC) respectively to the well-being of Rothamsted Research; in particular, this is achieved through an arm's length stance that does not seek to unduly influence the strategic direction of the Institute. To date, the Board has established two sub-committees for specific purposes, namely the Finance and Audit Committee, and the Remuneration Committee; the latter setting remuneration for key senior staff based on performance.

In addition, there is an agreement by which BBSRC employees (who are considered to be public sector employees and subject to those controls) are deployed to work at Rothamsted Research with the latter bearing all relevant costs. All new members of staff appointed are employees of the Company under terms and conditions defined by the Company. They pay into a defined contribution Pension Scheme (started on 1st April 2012) provided and administered by Aviva PLC. A number of staff has also transferred by mutual consent from BBSRC to Rothamsted Research employment terms.

There is an appointments panel that is set up as required. The Board considers and is guided by the Code of Practice and guidance issued from time to time by the Charity Commission.

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

Employee Consultation

The Company recognises all appropriate Trade Unions representing staff employed. The Institute Negotiating Consultative Committee meets at least twice a year. It provides an avenue for provision of information, consultation and discussion of a wide range of matters affecting staff. At a national level there is a Joint Negotiating Consultative Committee representing all staff within the institutions supported by the BBSRC. Information is also provided at a national and local level through the Annual Report, the Strategic Plan and other publications.

Disabled Persons

The Company complies with all relevant legislation relating to disabled persons and continually strives to follow best practice in these matters in order for an employee with a disability to remain in employment or to successfully employ a disabled preferred candidate within a safe working environment.

Our staff code requires that we will not reject a disabled job applicant for a reason which relates to his/her disability; person specifications will always be used and selection criteria monitored to ensure that discrimination does not unwittingly occur; recruitment and selection procedures will be adapted where possible to ensure that they do not disadvantage disabled job applicants.

We will take steps to try to enable an employee who becomes disabled to remain in employment. In consultation with the employee, adjustments to facilitate their retention will be considered. Employees with disabilities will be provided with opportunities to develop full and rewarding careers on an equivalent basis to other employees with similar skills and abilities and, as described above, will support any such applicants for vacancies across the Institute.

Connected Charity and Companies

The freehold interest in the land and buildings at the Company's main operating site, (Rothamsted, Harpenden, Hertfordshire) is held by Lawes Agricultural Trust (LAT), a charity with similar objects to Rothamsted Research. There is no written agreement for the occupation of this site and no rent is charged to the Company by the Trust. Land and buildings at North Wyke, Devon are owned by the Biotechnology and Biological Sciences Research Council and occupied by the Company under a formal lease and a peppercorn rent.

Rothamsted Manor Limited (RML) is a wholly owned subsidiary of the Company having been transferred with all accumulated losses at 1 April 2010 from LAT. RML provides property management services for LAT owned properties occupied by Rothamsted students and staff. Conferencing, catering and some management agent services were transferred from RML to Rothamsted Centre for Research & Enterprise (RoCRE) on 1 April 2015. None of the other subsidiary undertakings conducted any trading activities during the year.

RoCRE, which was formerly Rothamsted Research Centres Limited, now operates and provides catering, conferencing and some management agent services for the Conference Centre, Lawes Open Innovation Hub and, on behalf of LAT, The Daniel Hall Building. The new Rothamsted Centre for Research and Enterprise, RoCRE, is a unique hub focused promoting collaboration and innovation by partnering with commercial agricultural technology businesses and opening up the research process. With access to Rothamsted's world class facilities and researchers, the new RoCRE offers flexible laboratory space, offices and informal meeting hubs, as well as an extended Conference Centre. It is considered a joint venture of the charity.

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

The Charity has a 15.89% shareholding in VSN International Limited, the principal activity of which is research into, and development and distribution of, data analysis software, mainly targeted at the international life science sector. The company continues to consolidate through steady growth. The 2015/16 gross profit was £1,088k (14/15: £1,206k, 13/14: £1,143k) with an operating profit of £200k (14/15: £277k, 13/14: £285k), with a decreased turnover of £1.7m (14/15: £1.8m, 13/14: £1.7m) achieved across all territories of the globe. The company is expected to continue to provide modest share dividends in 16/17.

Risk Management

The Company has a formal risk management strategy which has been in place throughout the period covered by this report and is reviewed by the Board and the Finance and Audit Committee. The Board has overall responsibility for establishing key procedures designed to achieve systems of internal control and for reviewing and evaluating their effectiveness.

The risk management strategy comprises:

- An annual review of the key risks the Company may face;
- The establishment of systems and procedures to mitigate those risks identified within the risk register;
- The implementation of procedures designed to minimise any potential impact on the Company should those risks materialise.

A risk register is maintained which sets out the key organisational risks. Risks are considered by reference to the probability of occurrence and impact on the Company.

The key risks identified, their associated exposures and management strategies are as follows:

Risk Identified	Institute Goal at Risk	Control Mitigation
Failure to attract sufficient and diversified competitive grant income.	Excellent, outcome-driven, and well-resourced science.	Robust budget management established for new grant targets. Actively manage application process for new grants. Specialist team created to drive new grant submissions. Revenue targets set for scientists.
Insufficient appropriately skilled staff employed to achieve Institute's key strategic objectives.	Highly motivated, skilled, well-performing workforce. Ensure appropriate skills hired and retained.	Operate flexible but clear recruitment procedures that result in the recruitment of high quality staff at all levels. Use allowable flexibility in pay and other rewards to retain high quality staff.
Compliance failure or failure of the regulatory process, leading to accident, legal issues or prohibitions.	Maintain robust risk management processes.	Consolidation of Health & Safety, biosafety and Quality Assurance, effective 1 August 2016 to address Nagoya Protocol, GM stewardship and animal welfare legislation. Director of Operations now involved with Animal Licence and Animal Welfare.

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

Impact of future transformation of RCUK to RUK and BBSRC change of status.	Excellent, outcome-driven, and well-resourced science. Long-term sustainability.	Negotiated settlements are being reached re: redundancy costs and pension obligations. Business case under consideration at BEIS for permission to begin consultations on redundancies.
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The day to day responsibility for implementation of risk management procedures and ongoing monitoring of risk and the effectiveness of controls rests with the Management Committee. This Committee examines existing and emerging corporate risks, reviews the Institute risk register and explores corporate risks in detail based upon an agreed timetable. It is also overseen by the Finance and Audit Committee, to which significant risks may be escalated for action or particular monitoring, as well as high level oversight by the Board.

The Finance and Audit Committee is empowered by the Board of Trustee Directors and has responsibility for advising on the effectiveness of the systems of internal control, including risk management. In order to fulfil this requirement, the risk profile is reviewed by the Finance and Audit Committee twice a year with special attention to the progress towards mitigation measures and the identification of new risks. The Finance and Audit Committee comprises four members of the Board of Trustee Directors and meets at least twice a year.

In terms of financial risks, the Group has no borrowings and limited exposure to financial instruments, such as trade debtors and trade creditors. The major area is cash at bank and on treasury deposit. As detailed in the investment policy on page 19, cash is held in deposit accounts and treasury deposits with major UK clearing banks. The Group's exposure to trade debtors and the associated risk of default is limited to only £3.1m at 31 March 2016. Only 5% of trade debtors are over 90 days due and the risk of default is not considered significant.

OBJECTIVES AND ACTIVITIES

The objects of the charity are:

- For the benefit of the public to advance the science of agriculture by the initiation, protection, development and continuance of investigations and experiments;
- To ensure that research undertaken is complementary to related studies elsewhere while providing for regional diversity in the environment and in agricultural practice, and to collaborate in joint programmes where appropriate;
- To promote the dissemination and extension of research findings alone or in association with other charitable organisations having objects similar to the objects of the Company and to actively facilitate the uptake of research results by industry;
- To extend these activities through external funding to provide support to developing countries.

Rothamsted Research remains dedicated to providing scientific research that contributes to the sustainability of agricultural land management systems both in the UK and throughout the globe. This includes improving yield and quality of crops produced for a variety of purposes and enhancing the sustainability of agricultural systems worldwide. Rothamsted Research is also using its scientific expertise to understand climate change and taking this further by demonstrating how plants and appropriately managed agriculture can help to mitigate anthropogenic effects on climate change. This is especially evident in the context of our major effort aimed at bioenergy.

Agriculture provides one of the most spectacular illustrations of how the benefits from good science can provide improved well-being for mankind; from the precarious food security that was found throughout the globe only a few generations ago to a sufficient, predictable supply of good quality food that much of the world enjoys today. However, that situation is not true for a large number of people, nor is it assured

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

without constant scientific development and global food security is a significant political issue for all countries. This situation is not likely to change in the medium term and the unique combination of skills and experience across Rothamsted Research is increasingly relevant for that and the growing bioeconomy.

The mission of Rothamsted Research is to perform world-class research to deliver knowledge, innovation and new practices to increase crop and animal productivity and to develop environmentally sustainable solutions for food and energy production.

Rothamsted Research will accomplish its Mission through its Institute Strategic Programmes (see pages 8 to 11):

- 20:20 Wheat
- Cropping Carbon
- Designing Seeds for Nutrition and Health, and
- Delivering Sustainable Systems.

The Company's main objectives for the year were to:

- Advance further in scientific excellence, relevance and delivery of innovations;
- Create new initiatives and enterprises;
- Begin a process of organisational change towards developing a new vision and strategy, to position Rothamsted Research for the future, and;
- Continue to enhance sites and services to provide an excellent environment for science and for all employees.

To help achieve this the Company has a highly skilled workforce of scientists of international quality who have access to state-of-the-art facilities alongside unrivalled time-series of data and sample archives, including those derived from the world-renowned and unique "classical" field experiments started over 170 years ago. The major areas of activity are scientific research, postgraduate education and public engagement. Rothamsted is committed to ensuring that all of its research is published in widely available media of various types appropriate for the target audience.

Following a successful BBSRC-commissioned mid-term review of its programmes in October 2014, Rothamsted Research has begun to undertake a thorough review of its strategy across all the organisation's activities, which will come to full fruition in 2016. A restructuring of the Institute major functions has been completed, including the appointment of a new senior management team and succession in various areas.

STRATEGIC REPORT

ACHIEVEMENTS AND PERFORMANCE - Research Activities and benefits

Throughout 2015/16 the Institute has been continuing to refocus its research and developing a new strategy that has been widely disseminated and discussed during the preceding year. This is based around the delivery of the objectives that were described within the "Institute Strategic Programme Grants" (ISPG) that are the larger part of BBSRC's grant to Rothamsted Research and were formally implemented with effect from April 2012 playing the most critical part of the way ahead. Progress in the various elements in 2015/16 is as follows:

"20:20 Wheat®"

The 20:20 Wheat® seeks to raise the yield potential of wheat in the UK to 20 tonnes per hectare within 20 years. This programme focuses on maximizing yield, protecting yield, soil resource interactions and systems modelling. The strategic alliance with Syngenta is now funding additional work on maximizing yield, protecting yield and soil resource interactions as well as through extension projects to broaden its scope. All the work packages have made good progress and the traffic light monitoring is green for all of the major objectives; the mid-term report was approved by BBSRC. Rothamsted Research and BBSRC

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

have made substantial investments to facilitate our ability to understand complex traits and phenotypic performance. The aerial system is now operational and UAV-based imagery is being coupled with digital elevation modelling to record crop height, thermal imagery canopy temperatures and hyperspectral values for crop health and performance. The land based Lemnatec system was commissioned in July 2015.

“Cropping Carbon”

A large experiment in which metabolites were screened and analysed in a willow mapping population subjected to nitrogen fertiliser addition, or not (control), over two successive years was completed and a set of compounds reproducibly associated with leaf dropping (indicative of nutrient deficiency induced senescence) were identified. Data on stability and activity of the novel aspirin analogue, when tested against cancer cell lines, was collected for patent filing. A method of obtaining two cycles/year (from bud set to bud burst) under controlled conditions was developed, facilitating future work on life cycle and phenology. A process-based model revealed different growth strategies among four willows varieties and identified key traits for targeted breeding. Work on soil carbon is now back on track with differences between above- and below-ground inputs from different perennial bioenergy crops and forage grasses clearly identified at the plot-scale (and field-scale for forage grasses in the Sureroot project), and a new project based at North Wyke on buffer strips (willows and grasses) was successfully funded. A very large effort went into the determination of ^{13}C isotope analysis to expand the time series for soil carbon stock and compositional changes under two long-term *Miscanthus* trials focussing on non-tuft (*M. x giganteus*) and its tuft parent (*M. sinensis*). Evaluation for *M. x giganteus* shows that sequestration rates decline with duration from 1.6 to 0.5 t C ha⁻¹ y⁻¹. A publication is being drafted.

“Designing Seeds for Nutrition and Health”

Building on our strong capability in seed development and composition, we shall focus on two research themes which promote the enrichment of beneficial components of grains and oilseeds.

Within the Designing Seeds ISPG a second year of GM field trial of transgenic *Camelina sativa* plants engineered to accumulate omega-3 long chain polyunsaturated fatty acids was successfully completed, and the results from the 2014 trial published. Other notable achievements include a high impact collaborative publication with the University of Cambridge on the metabolism of seedling establishment, and a demonstration via human intervention studies of the importance of wheat grain derived ferulic acid in cardiovascular health (with the University of Reading).

“Delivering Sustainable Systems”

In Delivering Sustainable Systems, we investigate and test a series of hypotheses related to the key themes of pest control, biodiversity, grassland systems which support livestock and managing soils with the overall goal of quantifying sustainable systems. This highly integrated programme epitomises the systems approach that is one of the unique features of research at Rothamsted. The following is a very selective set of highlights.

Notable achievements in sustainability and agroecology research include the first demonstration of the potential for biodiversity to recover in an agroecological system following removal of a long-term anthropogenic stress. Published in the journal *Nature*, the research showed how diversity in the 160-year-old Park Grass experiment declined and then recovered in response to an increase, and then decrease in nitrogen pollution from car exhaust fumes. Our sustainability science has shown that ‘land sparing’ (i.e. producing as much as possible on the best land and sparing other land for sequestering carbon) could help to eliminate net greenhouse gas emissions from agriculture. The research was published in *Nature Climate Change*. Current and future research on sustainability and agroecology will be substantially enhanced through a new strategic partnership between Rothamsted and the Centre for Ecology and Hydrology. Led by staff in DSS, this is the first cross-council joint strategic programme in the UK and the result is a globally leading consortium integrating the critical ecosystem services required to deliver sustainable intensification of agriculture.

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

Our soils programme has been augmented through strategic ISPG hires bringing new capability that is integrating molecular soil biology, physics and chemistry for the first time. A new whole-genome modelling platform has been developed to explore the concept of the soil phenotype and how the unprecedented diversity in soil gives rise to critical functions.

Our crop protection research has attracted further support from industry and delivered significant results elucidating the mechanisms of emerging resistance, one of the biggest threats to global agriculture. The mechanisms of resistance to the diamide pesticide group in diamondback moths has been confirmed. The mechanisms of resistance to another pesticide group, spinosad, has also been elucidated using gene editing technology, settling an ongoing controversy as well as demonstrating the use of the technology in resistance research. Fungal resistance is particularly important because of the rapidly declining arsenal of approved chemicals. Our fungal resistance group research focusses on evolution studies in the face of two major remaining fungicides, and have identified important new mechanisms underlying target-site mutations.

Our Chemical Ecology group in collaboration with the School of Chemistry, Cardiff University, has shown that novel olfactory ligands (Germacrene D analogues) for modifying the behaviour of grain aphids, *Sitobion avenae*, can be rationally designed and produced using a synthetic biology approach. A UK patent covering the composition of the ligands has been filed, and the research has been published in *Chemical Communications* **51**, 7550-7553. The work was publicised in the media and Mike Birkett gave an interview on the Radio 4 programme 'Farming Today'.

Staff in Designing Sustainable Systems (DSS) led the bid to successfully secure funding for the UK Agri-Tech Centre for Agricultural Innovation in big data and metrics of sustainability. AgriMetrics is now headquartered in Rothamsted and is engaging with over 200 companies to support the agri-tech sector in leveraging value from data and analytics. AgriMetrics will significantly enhance Rothamsted's long-standing capability in quantitative agricultural science. Staff from DSS have also led significant parts of two other bids for Agri-Tech Centres. The first, called the Centre for Crop Health and Protection (CHAP) focusses on crop protection and will enhance translation in our crop protection research, and the second, Centre for Innovation Excellence in Livestock (CIEL) focusses on livestock and will provide new facilities at our North Wyke campus.

National Capabilities:

Long-Term Experiments

In 2015-16 several key datasets from the Long-Term Experiments (LTEs) were revised to include more recent data. These data were included in the electronic Rothamsted Archive (e-RA) and were made freely available to internal and external users via the e-RA website (<http://www.era.rothamsted.ac.uk>). The datasets included:

- Broadbalk grain yields (1852-2015)
- Park Grass species numbers (1862-2012)
- Hoosfield Spring Barley grain yields (1852-2011)

Work has also started to prepare selected yield data from Park Grass for inclusion within e-RA as an additional open access dataset in 2016/17.

In addition, fifteen new publications relating to the LTEs were recorded in the e-RA bibliography; thirteen papers were published in scientific journals and two were included in conference outputs. In December 2015, the publication of a paper in *Nature* on grassland biodiversity by Rothamsted researchers together with external collaborators, based on the effects of N deposition on Park Grass (Storkey et al (2015) Grassland biodiversity bounces back from long-term nitrogen addition, *Nature*, 528, (7582), 401-4), was a notable achievement. The work of the LTEs continues to be publicised at conferences and other venues. In May 2015 a review of recent work based on the LTEs together with details of e-RA was published in the

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

proceedings of a meeting on the value of long-term sites and experiments for agriculture and ecology (Macdonald et al (2015), Aspects of Applied Biology 128, 1-10; Glendining et al (2015) Aspects of Applied Biology 128, 263-264). In October 2015, two new PhD studentships based on the Rothamsted LTEs began. One of these is based on Park Grass and is entitled understanding the links between soil, plants and pollinators. The other focuses more broadly on understanding the relative impacts of climate change on crop production using data from the LTEs.

North Wyke Farm Platform

The Farm platform's recognition as the leading sustainable grazing systems research facility continues to grow both nationally and internationally, with over 60 research projects and experiments carried out on the facility since the conversion from the base line treatments. The complete compliment of converted catchments (grass and clover and grass monocultures, blue and red treatments) was completed in 2015 with a soft launch of the data portal in March and full launch in September 2016. The Centre for Innovation Excellence in Livestock (CIEL) agreement was signed in February 2016. The £87.7 M (total investment for all sites) centre will see further development of the farm platform capability in landscape emissions and animal housing facilities to cement its place as the UK's leading provider of grazing systems research. International recognition through the Global Farm Platform initiative and joint centres in China (Newton funded) has seen the development of similar global capability in farm platform development in the US (Dairy – University of Wisconsin-Plattville; \$3M; Beef- Kansas State University \$12M) and China (CAAS – Grazing systems – In development). These new capabilities are a direct result of interaction with the Farm Platform.

Rothamsted Insect Survey ("RIS")

From May 2015 James Bell, quantitative ecologist, replaced Richard Harrington as Head of the Insect Survey. Ramiro Morales Hojas was appointed as a senior scientist in November 2015 into a new post that will deliver data on population genetics of pests using data and samples from the RIS. Alex Greenslade, entomologist, was appointed to the group to identify vectors of turnip yellows virus in brassicas and biological threats vectored by psyllids into potatoes. Chris Shortall, entomologist, began in earnest a part-time PhD investigating the population dynamics of pollen beetles with the University of Reading. Two new PhD studentships were won with the University of Cardiff (SW DTP: spider diets) and University of Lancaster/CEH (Envision: moth declines). Both PhDs will begin in October 2016. Daily data on UK aphids from 16 suction-traps and moths from 74 light-traps were gathered. Data is currently being stored in a new SQL server database that is close to completion. A strategic database post is being sought to replace Paul Verrier (VW) who has curated the database for many years. Forecasts of aphid phenology and abundance, and weekly bulletins on population levels of key pest species were provided to growers, crop consultants and levy boards (AHDB, PGRO, BBRO). Data on moth abundances and phenology were distributed to researchers and volunteers. Bespoke data extractions were performed for a range of external researchers (10 data requests) both for direct collaborations and for independent research. Over 22,000 page views were registered on the website. Wasp and parasitoid samples were sent to the Natural History Museum. Two fellowships were completed (University of Valencia Leonardo fellow and University of Hamburg) that analysed parasitoids and pollinating Diptera respectively. Major papers using RIS data were published in *Journal of Animal Ecology*, *Ecological Entomology* and *Nature Climate Change*.

PHI-Base

Last year the Pathogen-Host Interactions database (www.phi-base.org) expanded by 687 genes, 915 interactions, 65 new pathogenic species, 33 host species, 102 diseases and 569 references. The current version, released July 2015, contains 3562 genes, 5017 interactions, 231 pathogenic species, 143 host species, 283 diseases and 1812 references. In 2015, the web-site was used for 5,676 search visits and the entire contents was downloaded 808 times. PHI-base use has now been cited in 133 peer reviewed publications. Two peer reviewed publications appeared on PHI-base in 2015.

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

ACHIEVEMENTS AND PERFORMANCE: Knowledge Exchange through Commercialisation ("KEC")

As clearly stated in our objectives, the Institute is firmly committed to ensuring that the output of our scientific research delivers benefits to society at large, the environment and the economy both at UK and global levels. The Institute achieves this by focussing on optimising economic, environmental and societal impact across our research portfolio as our primary objective, consistent with our charitable status. Where the Institute has the opportunity to generate commercial income (through contract research, research collaboration with industry, and the commercialisation of IP and innovation), our primary aim is to achieve maximum impact to the economy, environment and society.

The Institute entered a new strategic phase in 2012 with KEC taking a more visible role in the activities of Rothamsted Research by playing its part in delivering the impact agenda that is prominent within BBSRC. A dedicated budget agreed with BBSRC as part of the Institute Assessment Exercise (IAE) will help embed innovation throughout the Institute. A Head of KEC is now in place at a senior level, an Alliance Manager and Business Development Manager have been appointed to promote our links with industry, and a Knowledge Exchange Manager drives Rothamsted's outreach activities to farmers and other stakeholders.

KEC includes a wide spectrum of activities to help ensure our research outcomes find their way into improved policies, products and practices across the globe; from our dialogue with farmers and agribusiness (knowledge exchange) through to collaboration with industry intellectual property licencing (commercialisation).

Knowledge exchange through outreach and stakeholder engagement remains a priority and is now led within Rothamsted by a dedicated KE Manager. With the KE Manager's support Rothamsted Research Association will continue its activities aimed at farmers and agribusiness.

Rothamsted is focussed on increasing funding from translational funding sources such as the BBSRC Pathfinder and Follow on Funds, in addition to other funding streams, such as those available through Innovate UK and the Agri-Tech Catalyst Fund, to help Rothamsted's scientists transfer their knowledge effectively. We are also targeting the development of Strategic Centre funding and to this end have secured Rothamsted's place in three of the four Innovate UK Centres for Agri-Tech Innovation: AgriMetrics (now based at Rothamsted), The Centre for Crop Health and Protection, and the Centre for Innovative Excellence in Livestock. This adds to our existing alliances.

Our strategic alliance with Syngenta continues, and the funds available have now all been allocated. Our Alliance Manager is now looking to develop strategic alliances with other companies. We are increasing our focus on maximising the innovation coming from our research through the development of the InnPod, and AGRIA – a unique innovation accelerator focussing on delivering solutions to challenges in agriculture. We will continue supplying contract research services to address global needs through the most effective means. This activity will deploy any unused capacity in our key facilities such as greenhouses and controlled environment units, and through the full exploitation of major facilities like the North Wyke Farm Platform. Our Business Development Manager is pushing this work forward. His initial focus has been on the North Wyke Farm Platform. The occupation of the RoCRE innovation space in the Daniel Hall incubator building and Lawes Open Innovation Hub continues to increase. We are actively looking to increase interactions between these companies and Rothamsted Research scientists. We continue to work with RoCRE to seek additional tenants.

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

KEC activities in 2015/16 worthy of note:

1. The KEC Department is now fully staffed with dedicated resource in Business Development, Alliance Management, KE and Outreach, and IP & Licencing.
2. We have completed a review of our IP portfolio and refocused our efforts on delivering maximum impact from this portfolio
3. Our alliance with Syngenta is ongoing and starting to deliver valuable outcomes
4. Three Agri-Tech Centres are now operational – one headquartered at Rothamsted
5. Negotiations continue with a view to licencing our Omega 3 technology.
6. Another round of the Rothamsted Technology Innovation Programme (TIP) funded by KEC is up-and-running.
7. We are working closely with RoCRE on both developing innovation and attracting new partners.
8. We are developing closer links with local farmers and with key stakeholders to improve our knowledge exchange and outreach
9. We continue to develop new links with industry, and have secured a number of translational funding awards from Innovate UK and BBSRC.

ACHIEVEMENTS AND PERFORMANCE - Papers published in high impact journals during 2015 (calendar year)

The Institute published 248 papers in refereed journals in 2015 (262 in 2014; 270 in 2013; 316 in 2012;). 220 papers had Harpenden-based authors and 33 came from North Wyke. There were 5 papers which had authors from both the Harpenden and North Wyke sites. 61 papers were published in journals with an impact factor of 5 or more (52 in 2014; 42 in 2013; 65 in 2012) and 15 in high impact journals such as PNAS, Science and Plant Cell (16 in 2014; 14 in 2013; 20 in 2012). The range (excluding journals with no impact factors) was 41.51 (Nature Biotechnology) to 0.22 (Journal of the Southern African Institute of Mining and Metallurgy).

The median (3.2 in 2015; 3.2 in 2014; 3.1 in 2013; 3 in 2012) continues to hold steady but the mean (4.03 in 2015; 4.21 in 2014; 3.6 in 2013; 3.8 in 2012) has decreased slightly, following last year's record 3 papers in Nature. Both measures include journals with no impact factors. Web of Science was searched on 13.04.2016 for citation data for individual papers published in 2015. There are currently only 6 papers for 2015 with 10 or more citations (14 for 2014 at 23.6.2015; 10 for 2013 at 24.6.2014; 8 for 2012 at 21.6.2013; 9 for 2011 at 11.7.2012). Only one of the 6 'highly cited' papers was published in a journal with an impact factor of less than 5.

4-year Retrospective

Last year, Web of Science (WoS) was used to perform some simple analyses of papers published in the four years 2011 to 2014. This has been repeated for the four years 2012-2015, but the results presented here should not be seen as definitive as the analysis has been done 2 months earlier than usual. For comparison, last year's results have been included in brackets.

There are 1222 journal papers and reviews with an Institute address included in WoS for the years 2012-2015 (1329 for the years 2011-2014). There are currently 10566 (12544) citations of these 1222 papers (9525 (11359) without self-citations), giving an average of 8.65 (9.44) citations/paper. The Institute's H-index has decreased from 45 to 40. There are 8 (6) papers with more than 100 citations to date.

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

Open access

There continues to be a requirement that publications resulting from Research Councils UK (RCUK) funded research should be available either as immediate open access publications on the publisher's site or as full-text deposits in a repository within six months of publication. Institutions are expected to achieve 75% compliance by the end of the 5-year transition period (2017-18). Funding has been made available to cover the article processing charges (APCs) which publishers levy on gold open access publications.

Reporting on compliance with RCUK policy is based on the academic financial year. For the reporting year 10.08.2014 to 31.07.2015 Rothamsted achieved 65% compliance: 135 of 207 qualifying papers were published open access. APCs for 64 of these papers were paid from the Rothamsted block grant at a total cost of £101698 (mean £1589/paper). Costs per paper ranged from £2603 (Current Opinion in Plant Biology) to £327 (Metabolites).

ACHIEVEMENTS AND PERFORMANCE: Grants and contracts won

Just as the publications from Rothamsted Research are a measure of achievements made by previous research, the quality and magnitude of grants won from major grant giving bodies available to UK researchers is an indicator of the high repute and esteem in which Rothamsted's proposals are held. It holds great promise for the strength of future work.

As an indicator of success in this area, the table below summarises the successes in drawing on a variety of sponsors and covering the broad range of scientific activities to be found at the Institute.

<u>Funder*</u>	Average annual total value of all grants won over 4 years £'000
BBSRC	5,453
DEFRA	2,451
EU	757
Industry	2,642
Other Government Departments and Public Sector	1,051
Trusts, Foundations, Charities	729
	<hr/> 13,083 <hr/>

* Note that the values are at approved Full Economic Costs (FEC); BBSRC and other research council awards are provided at 80% of the amount shown. All others are at the full value received.

BBSRC STRATEGIC GRANT TYPE	Total 2012/13 to 2016/17* £'000
National Capability Grants (NCGs)	
Insect Survey	1,554
NW Farm Platform	1,647
NW Farm Costs	4,563
PHI-Base	275
LTE and Archive and ERA	3,220
Total NCGs	<hr/> 11,259 <hr/>
ISPGs	
20/20 Wheat	16,130
Cropping Carbon	7,377

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

Designing Seeds	8,222
Sustainability	14,373
Total ISPG's	46,102
Institute Development Grant	6,393
Knowledge Exchange and Commercialisation Grant	5,130
Total for 5 years[^]	68,884

[^] Subject to mid-term Review and UK Government's Comprehensive Spending Review

These ISPG and strategic grants are of strategic importance to Rothamsted Research reflecting the commitment to the Institute by the BBSRC to this area of scientific endeavour and the potential beneficial impact for the UK economy and the global food and energy security agenda.

ACHIEVEMENTS AND PERFORMANCE – Public Engagement

Rothamsted Research is committed to using a variety of means to engage with the public covering both how we do our science and the outcomes of our research. Amongst a great number of activities ranging from visits and workshops with individual groups to major presentations on subjects of topical or emerging interest, the Institute presented an exhibition in July 2015 in the Royal Society Summer Science Exhibition. Our display, called The Real Beef about Meat, was focused on the work carried out at our North Wyke site using the Farm Platform for sustainable production of livestock delivering high quality meat for the consumer. The exhibit and Rothamsted Research's work attracted the attention from the media and a few thousand members of the public including school children from around the UK engaged with researchers during the exhibition.

In October 2015 the Institute presented an exhibit with title Alpha & Omega: making omega-3 fish oils in GM plants in Milan in the context of EXPO2015 Feeding the Planet, Energy for Life. The researchers presenting the interactive exhibit engaged with international members of the public explaining the research they do in developing a sustainable source of omega-3 fish oils, thus contributing solutions for health and nutrition as well as environmental sustainability. 2015 was also the International Year of Soils (IYS) and Rothamsted Research led the way nationally in terms of organising events and raising the importance of soil research with 3 separate public evening lecture events hosting internal and external renowned speakers, which attracted almost 500 guests. Additionally, we organised and hosted an open day, "Soil is Life" in May 2015 whereby 17 different exhibits on our work with soils were displayed at our Harpenden site. Scientists working in the respective areas across both our sites had the opportunity to engage with more than 800 members of the public in the course of the day. Our events on the IYS were listed in relevant calendars nationally and internationally including the Food and Agriculture Organisation, thus raising further the profile of Rothamsted Research.

To highlight other areas of research and provide opportunities for engagement we hosted two additional public exhibitions and lectures at Rothamsted. In October 2015 we organised an exhibition and evening lecture on the work we do with Bio-imaging and phenotyping crops which attracted local members of the public, university students, farmers and other stakeholders. In November 2015 in the context of Sustainable St Alban's week we hosted an afternoon event with lectures and a farm visit to the National Willow collection. Four different displays demonstrated the breadth of work we do with willows and visitors from throughout the UK enjoyed interacting with our researchers. To engage younger audiences in scientific research, we launched in 2015 the Photo-story competition which was met with great enthusiasm and we received entries from across the country. Participants in the competition and the winners were all congratulated accordingly during a dedicated ceremony event in December at Rothamsted in Harpenden.

The Institute made a significant effort in communicating the breadth of its research to the media and stakeholders and in total 64 news stories and press releases were disseminated to the media. This was the

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

first year in Rothamsted's history that this number of announcements was disseminated based on original research publications and other relevant announcements across the spectrum of the work that is undertaken by the Institute. These resulted in 2000 web-articles referring to Rothamsted with a very wide international reach. In their majority, these announcements also resulted in interviews in the trade and national press on Rothamsted's work, giving opportunities to a range of researchers to inform the wider public about the breadth of the Institute's scientific achievements. Finally, in 2015 the publication of the results of the GM Wheat trial was accompanied by an extensive communication and public engagement activity nationally and internationally, during which the Institute conveyed successfully the scientific process and the value of conducting research and communicating it openly and transparently, further engaging in conversation with all interested members of the public and society.

ACHIEVEMENTS AND PERFORMANCE – Other

Management

Professor Achim Dobermann joined Rothamsted Research as new Director and Chief Executive on June 1, 2014. The organisational structure was revised to strengthen the leadership capacity for meeting future needs, including the appointment of Donna Lipsky as new Director of Operations, John Crawford and Johnathan Napier as Associate Directors for Science, Angela Karp as Associate Director for Science Innovation and Laura Smillie as Director of External Communications. All of these leaders have an outstanding national and international track record in their areas of responsibility, placing the Institute in a position to develop and implement its new vision and strategy.

Board

Professor Sir John Beddington FRS has been appointed as the Chair of the Rothamsted Research Board of Directors in succession to Professor Nick Talbot FRS. In addition to numerous high profile publications Sir John was from 2008 until 2013 the Government Chief Scientific Adviser (GCSA) reporting directly to the Prime Minister. Following the retirement of Stephen James, Louise Warren was appointed as the new Company Secretary.

Campus development

The "Rothamsted Centre for Research and Enterprise" (RoCRE) was further developed as a new partnership between Rothamsted Research, the Lawes Agricultural Trust and BBSRC. The new Lawes Open Innovation Hub and Conference Centre were completed in time and within budget.

Operations at the Broom's Barn site were wound down and an interim management agreement with NIAB was put in place to secure continued use of the site for field research. The North Wyke Farm Platform was further developed as a unique National Capability with state-of-the art research facilities and equipment.

PUBLIC BENEFIT

Rothamsted Research traces its primary Object back to that of the Lawes Agricultural Trust (LAT – still extant and owner of the land and building assets at Rothamsted and Brooms Barn) from which it was created in 1986; this Object can be summarised as the advancement of the science of agriculture. By virtue of the means and routes by which this is carried out, it is clearly aimed at public benefit and so falls within the charitable purpose of "the advancement of the arts, culture, heritage or science". There are inevitable ancillary benefits from the primary activities as a result of meeting the primary object that would fall into the categories of advancement of education, the advancement of environmental protection or improvement and, perhaps to a more limited extent, the advancement of health. The Charity Commission guidance lists "scientific research" as one of the approved categories and specifically mentions scientific research projects under the heading of the advancement of science. The Trustees have complied with section 17 of

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

the Charities Act 2011 to have due regard to public benefit guidance published by the Charity Commission.

In the preceding sections of this report we detail how the objectives and achievements of Rothamsted Research have been successfully pursued. We aim to reach the highest level in the quality of our scientific research; we ensure that this is fully and widely distributed to a global audience and so achieve international recognition. This will continue to be via the refereed scientific literature, through contributions to research conferences as speakers and poster providers and via popular press articles for farmers and those engaged in land management. For the wider public we both initiate debates on important scientific issues relating to food production and security and also proactively engage in discussions and consultations involving these topics. We are convinced of the necessity to help ensure that our scientific advances are able to enhance the countryside and environment at both a national and a global level taking as many steps as we can to ensure this is achieved.

The benefits of our work reach and influence, directly or indirectly, all sectors of society: the broad aim of optimising the use of resources, maintaining crop production, while minimising potentially damaging environmental impacts is of benefit to all of humanity. There are some sectors of society who hold views that would limit the introduction of some of the technologies that arise from, or are an inherent part of, our scientific investigations; genetic modification of crop plants might fall into this category. Equally, much of our work is of direct benefit to the practices that are supported by the very same groups; improvement of biological control strategies may be highlighted in this context. Thus, we cover a wide number of sectors and interests and philosophical positions without favouring any one.

The scientific strategy is highly outcome-focussed. Rothamsted Research is continuing to monitor and understand the benefits that the research work has brought to a broad cross section of the community and more details can be seen on the web site at <http://www.rothamsted.ac.uk/our-science>. This covers a range of scientific disciplines but examples include improvement of fertiliser recommendations to reduce waste and pollution, improved monitoring of aphids, tracking and controlling potato diseases, enhancing disease resistance in oilseeds used in the Indian sub-continent and controlling insect vectors of human/animal disease for use in both the developed and developing world. Also, Rothamsted data has informed regulations for heavy metal levels in grains, glucosinolate levels in rape seed oil and opportunities for monitoring and improving soil health.

Indirect benefit may arise from a commercial company identifying new opportunities within our research findings or in the course of a collaboration; this is incidental to our work so in our dealings with commercial companies we do not accept any blanket inhibition on freedom to publish. We do accept that, in some examples, the best way that scientific discoveries may be introduced and achieve the most widespread use is through protection of our intellectual property and therefore fully accept that such an approach can be a legitimate form of comprehensive dissemination and actively pursue this where appropriate. Any financial benefit captured by the charity in this or any other way will be used to further pursue its Objects.

FINANCIAL REVIEW

The largest single grant - originally known as the Core Strategic Grant and now as the Institute Strategic Programme Grants – comes from the BBSRC. However, this grant has not been increased with inflation since 2006. The 5 year award made in March 2012 has no provision for inflation, resulting in a total erosion of the main BBSRC support over time. DEFRA funding has also continued to fall because of their increasingly diminished resources. The combination of these and other changes challenges the Institute and, as a result, restructuring has continued into 15/16 to ensure that the staffing structure is fit for purpose. Staffing levels (on a full time equivalent basis) for the charity were 416 in 2016 (2015: 389), while those of the group were 428 (2015: 401). Staff costs (excluding redundancy costs) were £18,962k for the charity (2014/15: £17,513k), and £19,039k for the group (2014/15: £17,830k).

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

Operational income for the charity, less capital movements, is shown in the **Income and Expenditure Account** as £31,782k (2014/15: £36,496k). Operational expenditure for the charity, less capital movements, was £32,781k (2014/15: £32,457k). The charity operational deficit was £999k (2014/15: £4,039k surplus). The group operational deficit was £1,100k (2014/15: £4,044k surplus).

Total income for the charity as shown in the **Charity Statement of Financial Activities** decreased to £32,892k (2014/15: £42,603k). Total expenditure also fell to £36,196k (2014/15: £37,346k). The net result for the charity was a deficit of £3,238k (2014/15: a surplus of £5,257k). The net deficit for unrestricted funds was £218k (2014/15: £1,885k, a surplus before transfers) and a £3,020k deficit for restricted funds (2014/15: £2,926k surplus before transfers). The net result for the group as shown in the **Consolidated Statement of Financial Activities** was a deficit of £3,339k (2014/15: £5,262k surplus).

Principal Funding Sources

Income for the group totalled £33,440k (2014/15: £43,046k) of which £32,289k related to unrestricted funds (2014/15: £35,146k).

Income for the Charity for the year totalled £32,892k (2014/15: £42,603k) of which £31,741k was relating to unrestricted funds (2014/15: £34,703k). The principal funding sources for the Company are grants and contract income from a number of government and industrial customers to carry out scientific research.

The core strategic grant (ISPGs *et cetera*) from BBSRC for 2015/16 remained similar at £13,468k compared with £13,899k in 2014/15 for the year. Despite continued efforts of staff in increasing BBSRC competitive grant income this has declined at £4,752k (2014/15: £5,474k). Staff remain focussed on achieving further competitive grants. The competitive grants are received from Research Councils at 80% of the FEC, which includes a contribution to capital and infrastructure. The decline in DEFRA funding has continued in 2015/16, achieving £1,507k (2014/15: £2,115k), and this remains a concern. The Trustees are conscious that it remains a risk, but believe that the work of the Institute closely reflects the current DEFRA needs for climate change and agri-environmental research in support of their policy. However, only modest funding is available in this department and we can rarely afford to maintain the required teams of researchers when reliable and consistent funding is not being received.

A business plan, revised annually, based on improved diversity of income and the reduction of posts through the restructuring programme has been approved by the Trustees.

The Company has continued to invest in maintaining a good stock of buildings and infrastructure; the capital programme across Rothamsted Research is almost entirely funded through the BBSRC. The benefit of all capital investments ultimately accrues to the freeholder, The Lawes Agricultural Trust. There are significant opportunities for campus development especially centred on provision of facilities that will attract large and small businesses and other entities onto the site, to interact with our scientists by setting up operations at Rothamsted and/or using the enormously enhanced conference and communication facilities that were completed during 2015. The "Farm Platform" at North Wyke is now fully operational and is a first class facility for a wide variety of grassland based research.

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

5 year summary of financial review

	2016	2015	2014	2013	2012
<u>Staffing levels FTE's</u>					
Group	428	401	374	358	405
Charity	416	389	363	349	397
<u>Staff costs (excluding redundancy) £'000</u>					
Group	19,039	17,830	16,972	16,805	18,485
Charity	18,962	17,513	16,613	16,410	18,118
<u>Unrestricted income £'000</u>					
Charity	31,741	34,703	34,553	37,689	31,378
<u>Unrestricted expenditure £'000</u>					
Charity	32,025	32,634	28,253	28,339	29,650
<u>Unrestricted surplus / (deficit) before transfers £'000</u>					
Charity	(218)	1,885	6,300	9,350	1,728
<u>Income £'000</u>					
Group	33,440	43,046	38,053	43,279	36,814
of which Unrestricted	32,289	35,146	34,962	38,199	31,042
Charity	32,892	42,603	37,644	42,769	36,350
of which Unrestricted	31,741	34,703	34,553	37,689	30,578
<u>Principal funding sources £'000</u>					
ISPGs	13,468	13,899	12,542	13,390	13,209
BBSRC competitive grant income	4,752	5,474	5,481	6,105	5,075
DEFRA funding	1,507	2,115	4,089	2,487	3,990

Investment policy

The investment policy was discussed and approved at the board meeting held on 3 May 2016.

The Company has invested in a few small entities as detailed in note 11 to the financial statements. The Company makes very limited investments and these are aimed at ensuring that research outcomes from the Company's activities are put into practice in an effective, sustainable manner, and to generate returns in the future that will be used to help finance the Company's research programmes. In addition to the above investments the Company has a policy of keeping available funds in safe, interest bearing deposit account(s) and Treasury deposits to achieve a good rate of interest. This is difficult in the current challenging economic conditions. In view of the risk, we have used the major UK clearing banks for these deposits with modest interest rates.

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

Reserves policy

The directors closely monitor the reserves of the Company via the Finance and Audit Committee and the Reserves Policy was discussed and approved at the Board meeting held on 3 May 2016. These reviews encompass the nature of the income and expenditure streams, the need to match variable income with fixed commitments, the need to fulfil longer term liabilities and the need to replace and extend the capital assets of the Company where necessary. Thus, the Board considers the Company's exposure to the risk of any significant loss of income and to the risk of unforeseen expenditure, which cannot be mitigated by executive actions.

The financial results over recent years have limited our ability to improve reserves, and the level of reserves has fallen in 2015/16. Overall, the Company's reserves policy seeks to ensure that sufficient reserves are available to fulfil cash flow obligations and longer term liabilities. A detailed review of the reserves policy was undertaken in April 2016. Under this updated policy, the Company defines its free reserves at 31 March 2016 as being approximately £16 million, compared with a target level of reserves of £10 million. This target has been set by reference to expected ongoing levels of income, obligations (both known and inherent) and the Company's strategic development priorities.

Designated Fund

During the year, the Charity did not designate any further funds to the Estates Rebuild Designated Fund but continues to hold designated funds of £1.5 million for the long term sustainability of the Institute and its estate facilities.

FUTURE DEVELOPMENTS

Since 2011 the institute has also undergone significant changes in leadership, culture, business management, partnerships, and development of its infrastructure and capabilities. Building on these positive developments, we conducted a strategic planning exercise during the past 12 months that included an analysis of past impact, assessing external drivers of change, feedback from over 40 experts worldwide, a benchmarking survey of stakeholder perceptions, internal science reviews and priority-setting, and consultations with numerous partners and stakeholders in the UK and internationally.

Within the overall UK research landscape, we view our key purpose as conducting **strategic, problem-oriented, integrated agricultural science with wide impact**. Embedding a systems approach and working in an excellence- and outcome-driven manner, we aim to develop novel solutions for the sustainable intensification, smart protection and diversification of arable and grassland-livestock systems in the UK and globally. In agreement with the three strategic research priorities of BBSRC as well as grand challenges for future agriculture, our longer-term science strategy will focus on **four Strategic Themes**:

- Theme 1: Tailoring crop performance to close yield and efficiency gaps
- Theme 2: Optimising future agri-food systems to deliver a 'win-for-all' agriculture
- Theme 3: Developing smart plant and animal health solutions
- Theme 4: Designing novel products for health, nutrition and bio-based industries

We will tackle these complex challenges through our strategic research programmes and capabilities, partnerships with institutions, universities and companies, the Agri-Tech centres and other new mechanisms. Evolving from the current Institute Strategic Programmes (ISPs), our science strategy for 2017 – 2022 includes five inter-connected ISP Grants for which we hope to obtain strategic funding from BBSRC:

- **ISP 1: Designing Future Wheat:** a UK wheat research programme to improve resource use efficiency, resilience and value of wheat
- **ISP 2: Soil to Nutrition:** a programme that applies a mechanistic approach to optimising nutrient use efficiency across food production systems

Rothamsted Research Limited

TRUSTEES' REPORT (INCORPORATING THE STRATEGIC REPORT)

FUTURE DEVELOPMENTS (continued)

- **ISP 3: Achieving Sustainable Agricultural Systems:** a program to evaluate and understand the performance of sustainable intensification options at farming scale¹
- **ISP 4: Smart Crop Protection:** a programme on novel, systems-based solutions for managing insect pests, crop diseases and weeds
- **ISP 5: Tailoring Plant Metabolism:** a programme aimed at delivering novel traits in bespoke crops for the bioeconomy

Besides other core scientific capabilities, three National Capabilities will continue serve as a key resource for our strategic research as well as research conducted by national and international partners.

The future business model of Rothamsted Research will be based on about 1/3 strategic funding provided by BBSRC and 2/3 income from grants and other sources. The strategic funding will provide the foundation for leveraging additional funds to tackle the four Strategic Themes mentioned above, thus achieving wider impact and greater return on investment.

We will continue on our path of significant culture changes throughout the whole organisation. We will pursue new approaches for accelerating innovation, knowledge exchange, commercialisation, and communication throughout all our programmes. While pursuing a strategy of wide benefits for consumers, a stronger connection with the UK farming and farming business community will be a high priority for us. Rothamsted Research will significantly expand its international activities, including engaging more in research that is highly relevant for low- and middle-income countries. We strive to become a vibrant hub in agricultural sciences that is internationally renowned for achieving excellence in both science and innovation and, thereby, more social and economic impact from agricultural science.

AUDITOR

RSM UK Audit LLP has indicated its willingness to continue in office.

STATEMENT AS TO DISCLOSURE OF INFORMATION TO THE AUDITOR

The Directors who were in office at the date of approval of these financial statements have confirmed, as far as they are aware, that there is no relevant audit information of which the auditor is unaware. The Directors have confirmed that they have taken all the steps that they ought to have taken as Directors in order to make themselves aware of any relevant audit information and to establish that it has been communicated to the auditor.

The Trustees' Report (incorporating the Strategic Report) was approved by the Board and signed

On Behalf of the Board

.....

Trustee
Rothamsted Research Limited
Harpenden
Hertfordshire
AL5 2JQ

Dated: 13/9/2016

¹ Co-led with the Centre for Ecology & Hydrology (CEH); already funded through BBSRC and NERC.

Rothamsted Research Limited

STATEMENT OF TRUSTEES' RESPONSIBILITIES

STATEMENT OF TRUSTEES' RESPONSIBILITIES

The trustees (who are also directors of Rothamsted Research Limited for the purposes of company law) are responsible for preparing the Trustees' Report (and the incorporated Strategic Report) and the financial statements in accordance with applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

Company law requires the trustees to prepare financial statements for each financial year which give a true and fair view of the state of affairs of the charitable company and the group and of the incoming resources and application of resources, including the income and expenditure, of the charitable company and group for that period.

In preparing these financial statements, the trustees are required to:

- select suitable accounting policies and then apply them consistently;
- observe the methods and principles in the Charities SORP;
- make judgments and estimates that are reasonable and prudent;
- state whether applicable United Kingdom Accounting Standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that the charitable company will continue in business.

The trustees are responsible for keeping proper accounting records that disclose with reasonable accuracy at any time the financial position of the charitable company and the group and enable them to ensure that the Financial Statements comply with the Companies Act 2006. They are also responsible for safeguarding the assets of the charitable company and group and hence for taking reasonable steps for the prevention and detection of fraud and other irregularities.

The trustees are responsible for the maintenance and integrity of the corporate and financial information included on the charitable company's website. Legislation in the United Kingdom governing the preparation and dissemination of financial statements may differ from legislation in other jurisdictions.

Rothamsted Research Limited

INDEPENDENT AUDITOR'S REPORT TO THE MEMBERS OF ROTHAMSTED RESEARCH LIMITED

We have audited the group and parent charity financial statements of Rothamsted Research Limited ("the financial statements") for the year ended 31 March 2016 on pages 24 to 53. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice), including FRS 102 "The Financial Reporting Standard applicable in the UK and Republic of Ireland".

This report is made solely to the charitable company's members, as a body, in accordance with Chapter 3 of Part 16 of the Companies Act 2006. Our audit work has been undertaken so that we might state to the charitable company's members those matters we are required to state to them in an auditor's report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charitable company and the charitable company's members as a body, for our audit work, for this report, or for the opinions we have formed.

Respective responsibilities of trustees and auditor

As explained more fully in the Statement of Trustees' Responsibilities set out on page 22, the trustees (who are also the directors of the charitable company for the purposes of company law) are responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view.

We have been appointed auditors under the Companies Act 2006 and section 151 of the Charities Act 2011 and report in accordance with those Acts. Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and International Standards on Auditing (UK and Ireland). Those standards require us to comply with the Auditing Practices Board's (APB's) Ethical Standards for Auditors.

Scope of the audit of the financial statements

A description of the scope of an audit of financial statements is provided on the Financial Reporting Council's website at <http://www.frc.org.uk/auditscopeukprivate>

Opinion on financial statements

In our opinion the financial statements:

- give a true and fair view of the state of the group's and the parent charitable company's affairs as at 31 March 2016 and of the group's and the parent charitable company's incoming resources and application of resources, including their income and expenditure, for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the Companies Act 2006.

Opinion on other matter prescribed by the Companies Act 2006

In our opinion the information given in the Trustees' Report (incorporating the Strategic Report) for the financial year for which the financial statements are prepared is consistent with the financial statements.

Matters on which we are required to report by exception

We have nothing to report in respect of the following matters where the Companies Act 2006 requires us to report to you if, in our opinion:

- the parent charitable company has not kept adequate accounting records, or returns adequate for our audit have not been received from branches not visited by us; or
- the parent charitable company financial statements are not in agreement with the accounting records and returns; or
- certain disclosures of trustees' remuneration specified by law are not made; or
- we have not received all the information and explanations we require for our audit.

RSM UK Audit LLP

STEPHANIE WARBOYS (Senior Statutory Auditor)
For and on behalf of RSM UK AUDIT LLP, Statutory Auditor
Chartered Accountants
St Philips Point
Temple Row
Birmingham B2 5AF

Date: 18 September 2016

Rothamsted Research Limited

CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES

for the year ended 31 March 2016

	Notes	Unrestricted funds £'000	Restricted funds £'000	Total funds 2016 £'000	Total funds 2015 £'000
INCOME					
Income from:					
- trading	1	1,049	-	1,049	594
- investments	2	221	-	221	194
Income from charitable activities:					
- scientific research	3	30,607	1,151	31,758	40,702
- postgraduate education and training	3	412	-	412	1,556
		<u>31,019</u>	<u>1,151</u>	<u>32,170</u>	<u>42,258</u>
TOTAL INCOME		<u>32,289</u>	<u>1,151</u>	<u>33,440</u>	<u>43,046</u>
EXPENDITURE ON					
Raising funds	5	855	-	855	484
Charitable activities	6a	31,718	4,171	35,889	37,300
Net interest in results of joint venture	11	101	-	101	-
		<u>32,674</u>	<u>4,171</u>	<u>36,845</u>	<u>37,784</u>
TOTAL		<u>32,674</u>	<u>4,171</u>	<u>36,845</u>	<u>37,784</u>
Net gain on investments	11	66	-	66	-
		<u>(319)</u>	<u>(3,020)</u>	<u>(3,339)</u>	<u>5,262</u>
NET INCOME / (EXPENDITURE) FOR THE YEAR		<u>(319)</u>	<u>(3,020)</u>	<u>(3,339)</u>	<u>5,262</u>
RECONCILIATION OF FUNDS					
Fund balances at 1 April 2015		24,959	47,724	72,683	67,421
		<u>24,640</u>	<u>44,704</u>	<u>69,344</u>	<u>72,683</u>
Fund balances at 31 March 2016		<u>24,640</u>	<u>44,704</u>	<u>69,344</u>	<u>72,683</u>

All income and expenditure is derived from continuing activities.

Rothamsted Research Limited
CHARITY STATEMENT OF FINANCIAL ACTIVITIES
for the year ended 31 March 2016

	<i>Notes</i>	Unrestricted funds £'000	Restricted funds £'000	Total funds 2016 £'000	Total funds 2015 £'000
INCOME					
Income from:					
- trading	1	501	-	501	151
- investments	2	221	-	221	194
Income from charitable activities:					
- scientific research	3	30,607	1,151	31,758	40,702
- postgraduate education and training	3	412	-	412	1,556
		<u>31,019</u>	<u>1,151</u>	<u>32,170</u>	<u>42,258</u>
TOTAL		<u>31,741</u>	<u>1,151</u>	<u>32,892</u>	<u>42,603</u>
EXPENDITURE ON:					
Raising funds	5	14	-	14	16
Charitable activities	6a	32,011	4,171	36,182	37,330
		<u>32,025</u>	<u>4,171</u>	<u>36,196</u>	<u>37,346</u>
TOTAL		<u>32,025</u>	<u>4,171</u>	<u>36,196</u>	<u>37,346</u>
Net gain on investments	11	66	-	66	-
NET INCOME / (EXPENDITURE) FOR THE YEAR		<u>(218)</u>	<u>(3,020)</u>	<u>(3,238)</u>	<u>5,257</u>
RECONCILIATION OF FUNDS					
Fund balances at 1 April 2015		<u>24,962</u>	<u>47,724</u>	<u>72,686</u>	<u>67,429</u>
Fund balances at 31 March 2016		<u>24,744</u>	<u>44,704</u>	<u>69,448</u>	<u>72,686</u>

All income and expenditure derives from continuing activities.

Rothamsted Research Limited

BALANCE SHEETS

31 March 2016

Company Registration Number 2393175

	Notes	Group 2016 £'000	Charity 2016 £'000	Group 2015 £'000	Charity 2015 £'000
FIXED ASSETS					
Tangible assets	10	41,942	41,902	43,947	43,887
Investments	11	153	153	87	87
Joint venture	11	(101)	-	(1)	-
		<hr/>	<hr/>	<hr/>	<hr/>
		41,994	42,055	44,033	43,974
CURRENT ASSETS					
Stock		426	426	402	396
Debtors	12	6,757	7,412	8,415	8,812
Cash at bank and in hand		31,526	31,338	31,493	31,151
		<hr/>	<hr/>	<hr/>	<hr/>
		38,709	39,176	40,310	40,359
CREDITORS: Amounts falling due within one year	13	(11,359)	(11,783)	(11,657)	(11,644)
		<hr/>	<hr/>	<hr/>	<hr/>
NET CURRENT ASSETS		27,350	27,393	28,653	28,715
		<hr/>	<hr/>	<hr/>	<hr/>
TOTAL ASSETS LESS CURRENT LIABILITIES		69,344	69,448	72,686	72,689
CREDITORS: Amounts falling due after one year	14	-	-	(3)	(3)
		<hr/>	<hr/>	<hr/>	<hr/>
NET ASSETS		69,344	69,448	72,683	72,686
		<hr/>	<hr/>	<hr/>	<hr/>
FUNDS					
Restricted funds	17	44,704	44,704	47,724	47,724
Unrestricted funds:					
General funds	17	23,140	23,244	23,459	23,462
Designated funds	17	1,500	1,500	1,500	1,500
		<hr/>	<hr/>	<hr/>	<hr/>
		24,640	24,744	24,959	24,962
		<hr/>	<hr/>	<hr/>	<hr/>
TOTAL FUNDS		69,344	69,448	72,683	72,686
		<hr/>	<hr/>	<hr/>	<hr/>

The financial statements set out on pages 24 to 53 were approved by the Board and authorised for issue on 13 September 2016 and signed on its behalf by:

Stuart Jarvis
Director

Stuart Jarvis

Rothamsted Research Limited

CONSOLIDATED CASH FLOW FOR THE YEAR ENDED 31 MARCH 2016

	<i>Notes</i>	2016 £'000	2015 £'000
Net cash flows from operating activities	18	565	(4,466)
Cash flows from investing activities			
Dividends, interest and rent from investments		221	194
Purchase of property, plant and equipment		(1,373)	(1,452)
Capital grants received		1,110	6,107
Capital grants expended		(528)	(1,874)
Proceeds on sale of fixed assets		38	72
(Increase) /decrease in money market deposits greater than 90 days		(6,535)	6,580
Net cash (used in) / provided by investing activities		<u>(7,067)</u>	<u>9,627</u>
Change in cash and cash equivalents in reporting period		(6,502)	5,161
Cash and cash equivalents at beginning of reporting period		25,122	19,961
Cash and cash equivalents at the end of the reporting period	18	<u><u>18,620</u></u>	<u><u>25,122</u></u>

Rothamsted Research Limited

CHARITY CASH FLOW FOR THE YEAR ENDED 31 MARCH 2016

	<i>Notes</i>	2016 £'000	2015 £'000
Net cash flows from operating activities	19	719	(4,466)
Cash flows from investing activities			
Dividends, interest and rent from investments		221	194
Purchase of property, plant and equipment		(1,373)	(1,452)
Capital grants received		1,110	6107
Capital grants expended		(528)	(1,874)
Proceeds on sale of fixed assets		38	72
(Increase)/ decrease in money market deposits greater than 90 days		(6,535)	6,580
Net cash (used in) / provided by investing activities		<u>(7,067)</u>	<u>9,627</u>
Change in cash and cash equivalents in reporting period		(6,348)	5,161
Cash and cash equivalents at beginning of reporting period		24,780	19,619
Cash and cash equivalents at the end of the reporting period	19	<u><u>18,432</u></u>	<u><u>24,780</u></u>

Rothamsted Research Limited

ACCOUNTING POLICIES

These financial statements have been prepared in accordance with FRS102 (The Financial Reporting Standard applicable in the UK and the Republic of Ireland (FRS102)). This is the first set of financial statements that the charity has prepared in accordance with FRS102. The impact of the transition to FRS102 is shown in note 23 of the financial statements. The financial statements have been prepared under the historical cost convention as modified by carrying investments at fair value. The financial statements meet the requirements of the Companies Act 2006, the Statement of Recommended Practice - Accounting and Reporting by Charities (Charities SORP (FRS102)) and applicable accounting standards so far as these requirements are appropriate. The charity is a public benefit entity as defined by FRS102.

GOING CONCERN

The Group has net current assets of £27,350k (2015: £28,653k) and the Charity £27,393k (2015: £28,715k).

The Charity undertakes a detailed annual Business Planning exercise, which is reviewed and agreed by BBSRC on an annual basis, where income, expenditure and cashflow are forecast for the following 3 years, and this is assessed for major changes on a six-monthly basis. It should be noted that the forecasts are predicated on successful ISPG applications for the 2017-2022 funding period through the BBSRC and assume no balance sheet impact from BBSRC's intention to TUPE its employees to Rothamsted Research before the end of the current funding cycle.

The Directors have reviewed the going concern status of the Group and the Charity and their assessment based on these forecasts is that the Charity and the Group can continue as a going concern for the foreseeable future.

BASIS OF CONSOLIDATION

The results of Rothamsted Manor Limited have been included in the consolidated financial statements on a line by line basis, using the acquisition method of accounting. Rothamsted Manor Limited is the only subsidiary undertaking that has traded during the year (see Note 11). Other subsidiaries have not been consolidated on grounds of immateriality.

JOINT VENTURES

Undertakings in which the group has a long term interest and which are under joint control are defined as joint ventures. Joint ventures are accounted for using the equity method.

TANGIBLE ASSETS

Tangible assets are depreciated to their estimated residual values over their expected useful lives on a straight line basis. Items over £3,000 are capitalised.

Buildings	25 - 50 years
Plant & Machinery	5 - 10 years
Fixtures, Fittings and Vehicles	3 - 10 years

Assets under construction are included at cost, and will be depreciated to their estimated residual values over their expected useful lives on a straight line basis once the asset is brought into use.

STOCKS

Owing to the nature of the Charity's funding, research stocks are treated as an expense and are not carried forward as they are considered to have no net realisable value. The only stock held on the balance sheet is stock for re-sale (for example grain).

Marketable stock and work in progress is valued at the lower of cost and net realisable value.

Rothamsted Research Limited

ACCOUNTING POLICIES

INVESTMENTS

Unlisted investments are carried at directors' estimate of fair value as at the Balance Sheet date, and any gains or losses taken to the Statement of Financial Activities.

FUND ACCOUNTING

General funds are unrestricted funds which are available for use at the discretion of the directors in furtherance of the general objectives of the Charity and which have not been designated for other purposes.

Designated funds comprise unrestricted funds that have been set aside by the directors for particular purposes. The aim and use of each designated fund is set out in the notes to the financial statements.

Restricted funds are funds which are to be used in accordance with specific restrictions imposed by donors or which have been raised by the Charity for particular purposes. The cost of raising and administering such funds are charged against the specific fund. The aim and use of the restricted fund is set out in the notes to the financial statements.

INCOME

All income except grants is included in the Statement of Financial Activities when the Group or Charity is legally entitled to the income and the amount can be quantified with reasonable accuracy. Income from grants, including capital grants, is included within income when these are receivable, except as follows:

- When donors specify that grants given to the Charity must be used in future accounting periods, the income is deferred until those periods.
- When donors impose conditions which have to be fulfilled before the Charity becomes entitled to use such income, and those conditions are outside the control of the Charity, the income is deferred and not included in income until pre-conditions for use have been met.

When donors specify that grants, including capital grants, are for particular restricted purposes, which do not amount to pre-conditions regarding entitlement, this income is included in restricted funds when receivable.

Rothamsted Manor Limited (RML) generates income from property management. The income and expenditure associated with this activity are included within income from trading and expenditure on raising funds.

EXPENDITURE

Liabilities are recognised as expenditure as soon as there is a legal or constructive obligation committing the Group or Charity to the expenditure. All expenditure is included in the Statement of Financial Activities on an accruals basis, inclusive of any VAT which cannot be recovered, and have been classified under headings that aggregate all costs related to the category.

- Costs of raising funds are those costs incurred in trading activities which raise funds.
- Charitable activities include expenditure associated with scientific research and postgraduate education and training and include both the direct costs and support costs relating to these activities.
- Governance costs include those incurred in the governance of the Charity and its assets and are primarily associated with constitutional and statutory requirements.
- Support costs include central functions and have been allocated to activity cost categories on a basis consistent with the use of resources.

OPERATING LEASES

Rentals under operating leases are written off on a straight line basis over the term of the lease.

Rothamsted Research Limited

ACCOUNTING POLICIES

GRANTS

Expenditure by the Charity which is financed by grants from third parties to the Charity and which is applied to buildings not owned by the Group is capitalised and included within Restricted Funds. The rent free provision to the Charity of the buildings on which such expenditure has been applied is not treated as a donation as it is not possible to place an appropriate value on such arrangements.

Grants received as Unrestricted Funds, whether designated or general, are deferred to the extent that they relate to expenditure where the donor has stipulated that they be incurred in future periods, or are subject to pre-conditions that have not been met at the balance sheet date.

PENSION COSTS

Employees who remain on BBSRC contracts are members of the Research Councils' Pension Schemes. These are defined benefit schemes, the finances of which are administered by the BBSRC, and for which separate accounts are published (see Note 9). The pension schemes are administered by the Research Councils' Joint Superannuation Services and the schemes' finances are administered by the BBSRC. Under the definitions set out in FRS 102 the scheme is a multi-employer pension scheme. The charity is unable to identify its share of the underlying assets and liabilities of the scheme. Accordingly, the charity has accounted for its contributions to the scheme as if it were a defined contribution scheme. The pension costs represent contributions payable by the group to the schemes.

Employees with Rothamsted contracts are members of a defined contribution scheme. The amount charged as expenditure represents the contributions payable by the group in the year.

RELATED PARTY TRANSACTIONS

From 1 October 2011 BBSRC and LAT are now considered related parties of the Institute.

RESEARCH AND DEVELOPMENT

All research and development costs are written off as incurred.

CHARITABLE STATUS

Rothamsted Research Limited is a registered charity, registration number 802038, and in consequence is exempt from taxation on income arising from and expended on its charitable activities.

FOREIGN CURRENCIES

Transactions in foreign currencies are recorded using the rate of exchange ruling at the date of that transaction. Monetary assets and liabilities denominated in foreign currencies are translated using the rate of exchange ruling at the balance sheet date and unrealised and realised gains and losses on translation are included in the Statement of Financial Activities.

AGENCY ARRANGEMENTS

Income and expenditure are included within the Statement of Financial Activities where the Group or the Charity is acting as principal and bears the risks and rewards associated with those arrangements, rather than acting as an agent. Only any fee earned in respect of any agency arrangements is included within the Statement of Financial Activities.

FINANCIAL INSTRUMENTS

The Group has elected to apply the provisions of Section 11 'Basic Financial Instruments' and Section 12 'Other Financial Instruments Issues' of FRS 102, in full, to all of its financial instruments.

Financial assets and financial liabilities are recognised when the Group becomes a party to the contractual provisions of the instrument, and are offset only when the Group currently has a legally enforceable right to set off the recognised amounts and intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously.

Rothamsted Research Limited

ACCOUNTING POLICIES

Financial Assets

Debtors

Debtors which are receivable within one year and which do not constitute a financing transaction are initially measured at the transaction price. Such debtors are subsequently measured at amortised cost, being the transaction price less any amounts settled and any impairment losses.

A provision for impairment of debtors is established when there is objective evidence that the amounts due will not be collected according to the original terms of the contract. Impairment losses are recognised as expenditure in the Statement of Financial Activities for the excess of the carrying value of the debtor over the present value of the future cash flows discounted using the original effective interest rate. Subsequent reversals of an impairment loss that objectively relate to an event occurring after the impairment loss was recognised, are recognised immediately in the Statement of Financial Activities.

Financial Liabilities

Creditors

Creditors payable within one year that do not constitute a financing transaction are initially measured at the transaction price and subsequently measured at amortised cost, being the transaction price less any amounts settled.

SIGNIFICANT JUDGEMENTS AND ESTIMATES

Grants received for capital expenditure are included in the Statement of Financial Activities when the Group is entitled to receipt, whereas the depreciation on those grant-funded capital assets is reflected in the Statement of Financial Activities over the useful economic lives of those assets as stated on page 29. The depreciation cost is significant to the result as shown in the financial statements and, accordingly, the expected useful lives are considered to be an important estimate in the context of these financial statements.

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

1	TRADING INCOME GROUP	Unrestricted 2016 £'000	Unrestricted 2015 £'000	Restricted 2016 £'000	Restricted 2015 £'000	Total 2016 £'000	Total 2015 £'000
	Consultancy	28	21	-	-	28	21
	Other	473	130	-	-	473	130
	Sale of goods trading	548	443	-	-	548	443
		<u>1,049</u>	<u>594</u>	<u>-</u>	<u>-</u>	<u>1,049</u>	<u>594</u>
		<u><u>1,049</u></u>	<u><u>594</u></u>	<u><u>-</u></u>	<u><u>-</u></u>	<u><u>1,049</u></u>	<u><u>594</u></u>
	CHARITY	Unrestricted 2016 £'000	Unrestricted 2015 £'000	Restricted 2016 £'000	Restricted 2015 £'000	Total 2016 £'000	Total 2015 £'000
	Consultancy	28	21	-	-	28	21
	Other	473	130	-	-	473	130
		<u>501</u>	<u>151</u>	<u>-</u>	<u>-</u>	<u>501</u>	<u>151</u>
		<u><u>501</u></u>	<u><u>151</u></u>	<u><u>-</u></u>	<u><u>-</u></u>	<u><u>501</u></u>	<u><u>151</u></u>
2	INVESTMENT INCOME GROUP	Unrestricted 2016 £'000	Unrestricted 2015 £'000	Restricted 2016 £'000	Restricted 2015 £'000	Total 2016 £'000	Total 2015 £'000
	Dividend income	28	26	-	-	28	26
	Interest receivable	193	168	-	-	193	168
		<u>221</u>	<u>194</u>	<u>-</u>	<u>-</u>	<u>221</u>	<u>194</u>
		<u><u>221</u></u>	<u><u>194</u></u>	<u><u>-</u></u>	<u><u>-</u></u>	<u><u>221</u></u>	<u><u>194</u></u>
	CHARITY	Unrestricted 2016 £'000	Unrestricted 2015 £'000	Restricted 2016 £'000	Restricted 2015 £'000	Total 2016 £'000	Total 2015 £'000
	Dividend income	28	26	-	-	28	26
	Interest receivable	193	168	-	-	193	168
		<u>221</u>	<u>194</u>	<u>-</u>	<u>-</u>	<u>221</u>	<u>194</u>
		<u><u>221</u></u>	<u><u>194</u></u>	<u><u>-</u></u>	<u><u>-</u></u>	<u><u>221</u></u>	<u><u>194</u></u>

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

3 CHARITABLE ACTIVITIES

Total income from charitable activities are analysed as follows:

GROUP AND CHARITY	Unrestricted 2016 £'000	Unrestricted 2015 £'000	Restricted 2016 £'000	Restricted 2015 £'000	Total 2016 £'000	Total 2015 £'000
BBSRC ISPG	13,468	13,899	-	-	13,468	13,899
Competitive Project Grant	4,752	5,474	-	-	4,752	5,474
Minor Works	-	-	206	838	206	838
Capital Equipment	12	-	306	805	318	805
Site Redevelopment funding	-	-	40	401	40	401
Building project funding	284	-	31	200	315	200
Maintenance funding	-	796	177	-	177	796
Sustainability funding	-	1,704	-	-	-	1,704
Redundancy funding	42	133	-	-	42	133
Rebuild grant funding	-	-	-	3,863	-	3,863
Newton funding	-	-	-	1,100	-	1,100
Open Access funding	-	-	86	693	86	693
Institute Development Grant Funding	973	1,700	305	-	1,278	1,700
TOTAL BBSRC	19,531	23,706	1,151	7,900	20,682	31,606
DEFRA Commissions	818	962	-	-	818	962
DEFRA Competitive	689	1,153	-	-	689	1,153
Other Government Departments /						
Public Sector (see below)	1,107	750	-	-	1,107	750
European Union	534	1,186	-	-	534	1,186
Industry	3,394	2,959	-	-	3,394	2,959
Trusts, Foundations, Charities	777	1,328	-	-	777	1,328
Income from Farm Operations	465	548	-	-	465	548
Postgraduate Education and Training	412	1,556	-	-	412	1,556
R&D Expenditure Credit (see note 8)	2,874	-	-	-	2,874	-
Miscellaneous income	418	210	-	-	418	210
TOTAL INCOME	31,019	34,358	1,151	7,900	32,170	42,258
Other Government Departments /						
Public Sector:						
Other Research Councils	976	710	-	-	976	710
Other	131	40	-	-	131	40
	1,107	750	-	-	1,107	750

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

4 INCOME

GROUP	Unrestricted	Unrestricted	Restricted	Restricted	Total	Total
Analysis of income by	2016	2015	2016	2015	2016	2015
geographical region:	£'000	£'000	£'000	£'000	£'000	£'000
United Kingdom	31,414	32,666	1,151	7,900	32,565	40,566
Europe:						
EU	534	1,656	-	-	534	1,656
Other	104	28	-	-	104	28
North America	237	644	-	-	237	644
Other	-	152	-	-	-	152
	<u>32,289</u>	<u>35,146</u>	<u>1,151</u>	<u>7,900</u>	<u>33,440</u>	<u>43,046</u>

CHARITY	Unrestricted	Unrestricted	Restricted	Restricted	Total	Total
Analysis of income by	2016	2015	2016	2015	2016	2015
geographical region:	£'000	£'000	£'000	£'000	£'000	£'000
United Kingdom	30,866	32,223	1,151	7,900	32,017	40,123
Europe:						
EU	534	1,656	-	-	534	1,656
Other	104	28	-	-	104	28
North America	237	644	-	-	237	644
Other	-	152	-	-	-	152
	<u>31,741</u>	<u>34,703</u>	<u>1,151</u>	<u>7,900</u>	<u>32,892</u>	<u>42,603</u>

5 COST OF TRADING

	Unrestricted	Unrestricted	Restricted	Restricted	Total	Total
	2016	2015	2016	2015	2016	2015
	£'000	£'000	£'000	£'000	£'000	£'000
GROUP						
Consultancy	14	16	-	-	14	16
Cost of goods sold	841	468	-	-	841	468
	<u>855</u>	<u>484</u>	<u>-</u>	<u>-</u>	<u>855</u>	<u>484</u>
CHARITY						
	Unrestricted	Unrestricted	Restricted	Restricted	Total	Total
	2016	2015	2016	2015	2016	2015
	£'000	£'000	£'000	£'000	£'000	£'000
Consultancy	14	16	-	-	14	16

Rothamsted Research Limited
NOTES TO THE FINANCIAL STATEMENTS
for the year ended 31 March 2016

6a) CHARITABLE ACTIVITIES	Direct costs £'000	Other costs £'000	Support costs £'000	Total 2016 £'000	Total 2015 £'000
GROUP					
Scientific research	23,167	5,254	7,027	35,448	36,393
Postgraduate education and training	335	-	106	441	907
	<u>23,502</u>	<u>5,254</u>	<u>7,133</u>	<u>35,889</u>	<u>37,300</u>
Unrestricted	19,331	5,254	7,133	31,718	32,326
Restricted	4,171	-	-	4,171	4,974
	<u>23,502</u>	<u>5,254</u>	<u>7,133</u>	<u>35,889</u>	<u>37,300</u>
CHARITY	Direct costs £'000	Other costs £'000	Support costs £'000	Total 2016 £'000	Total 2015 £'000
Scientific research	23,460	5,254	7,027	35,741	36,393
Postgraduate education and training	335	-	106	441	907
	<u>23,795</u>	<u>5,254</u>	<u>7,133</u>	<u>36,182</u>	<u>37,300</u>
Unrestricted	19,624	5,254	7,133	32,011	32,356
Restricted	4,171	-	-	4,171	4,974
	<u>23,795</u>	<u>5,254</u>	<u>7,133</u>	<u>36,182</u>	<u>37,300</u>

Direct costs are those associated with providing the activity, such as laboratory supplies. Other costs include indirect costs relating to premises and equipment. Support costs are detailed in note 6b.

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

6b) SUPPORT COSTS

The Group and Charity allocate support costs as shown in the table below. Support costs are allocated on a basis consistent with the use of expenditure.

GROUP AND CHARITY

	Basis	Scientific research £'000	Postgraduate education and training £'000	Total 2016 £'000	Total 2015 £'000
Commercial and Finance	Staff time	865	32	897	701
Human Resources	Staff time	950	11	961	708
Computing Service Institute	Usage	1,120	5	1,125	1,078
Management	Staff time	856	24	880	687
Other administration	Usage	3,157	34	3,191	2,146
Governance	Staff time	79	-	79	83
		<hr/>	<hr/>	<hr/>	<hr/>
		7,027	106	7,133	5,403
		<hr/>	<hr/>	<hr/>	<hr/>

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

7 GOVERNANCE COSTS	Unrestricted 2016 £'000	Unrestricted 2015 £'000	Restricted 2016 £'000	Restricted 2015 £'000	Total 2016 £'000	Total 2015 £'000
GROUP AND CHARITY						
Audit fee	51	44	-	-	51	44
Trustees' expenses	2	15	-	-	2	15
Technical support	79	83	-	-	79	83
Professional advice to Trustees	13	12	-	-	13	12
	<u>145</u>	<u>154</u>	<u>-</u>	<u>-</u>	<u>145</u>	<u>154</u>

8 Directors claimed reimbursement of travel expenses, the amount of which was £2,323 (2015: 10 Directors claimed reimbursement of £4,081).

Under the amended Articles of Association approved by Special Resolution on 10 December 2013, the Charity is authorised to remunerate its Chairman, and in the year ended 31 March 2016 paid an honorarium of £10,932 (2015: £10,932). Other trustees received £Nil remuneration (2015: £Nil).

8 NET INCOME IS STATED AFTER CHARGING/ (CREDITING) THE FOLLOWING:	Group 2016 £'000	Charity 2016 £'000	Group 2015 £'000	Charity 2015 £'000
Interest receivable	(193)	(193)	(168)	(168)
Auditor's remuneration – audit services – parent	43	43	44	44
Auditor's remuneration – audit services – subsidiary	3	-	3	-
Auditor's remuneration – taxation advisory	2	2	24	24
Auditor's remuneration – taxation compliance	18	18	3	3
Hire of plant and machinery	1	1	1	1
Depreciation	3,351	3,331	3,323	3,298
Corporation tax in respect of R&D Expenditure Credit Claims (see note 3) not currently considered recoverable	622	622	-	-

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

9 STAFF COSTS AND NUMBERS	Unrestricted 2016 £'000	Unrestricted 2015 £'000	Restricted 2016 £'000	Restricted 2015 £'000	Total 2016 £'000	Total 2015 £'000
GROUP						
Salaries and wages	14,868	13,758	-	-	14,868	13,758
Social security costs	1,322	1,187	-	-	1,322	1,187
Other pension costs	2,849	2,885	-	-	2,849	2,885
Redundancy costs	497	472	-	-	497	472
	<u>19,536</u>	<u>18,302</u>	<u>-</u>	<u>-</u>	<u>19,536</u>	<u>18,302</u>
CHARITY						
Salaries and wages	14,804	13,507	-	-	14,804	13,507
Social security costs	1,320	1,175	-	-	1,320	1,175
Other pension costs	2,838	2,831	-	-	2,838	2,831
Redundancy costs	497	472	-	-	497	472
	<u>19,459</u>	<u>17,985</u>	<u>-</u>	<u>-</u>	<u>19,459</u>	<u>17,985</u>

The average number of persons employed by category was:

	Group Total 2016 No.	Charity Total 2016 No.	Group Total 2015 No.	Charity Total 2015 No.
Science staff	281	281	259	259
Technical and administrative staff	188	174	179	166
	<u>469</u>	<u>455</u>	<u>438</u>	<u>425</u>

The average number of persons (full time equivalent) employed by category was:

	258	258	241	241
Science staff	170	158	160	148
Technical and administrative staff	<u>428</u>	<u>416</u>	<u>401</u>	<u>389</u>

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

9 STAFF COSTS AND NUMBERS (continued)

The number of staff with emoluments greater than £60,000, all of whom were accruing pension benefits, was:

	Group Total 2016	Group Total 2015	Charity Total 2016	Charity Total 2015
£60,000 - £69,999	9	12	9	12
£70,000 - £79,999	4	6	4	6
£80,000 - £89,999	4	1	3	1
£90,000 - £99,999	1	2	1	2
£100,000 - £109,999	2	2	2	2
£110,000 - £119,999	2	0	2	0
£120,000 - £129,999	1	0	1	0
£150,000 - £159,999	0	1	0	1
£180,000 - £189,999	1	1	1	1
	<u>24</u>	<u>25</u>	<u>23</u>	<u>25</u>

Remuneration for 7 key management employees was £1,027k (2014/15: £903k, 6 employees).

Charity staff employed prior to the change in governance are BBSRC employees who are subject to BBSRC terms and conditions of service and are appointed by the Charity under delegated powers. Although the legal liability for employment rests with the BBSRC, the Charity is expected to meet all staff costs arising from normal activities.

RRES staff employed by the BBSRC are members of the Research Councils' Pension Schemes (RCPS), which are funded on a pay-as-you-go basis principally through employer and employee contributions and annual Grant-in-Aid. The pension schemes are by analogy to the Principal Civil Service Pension Scheme (PCSPS), except that the schemes, which are defined benefits schemes and provide retirement and related benefits on final emoluments, redundancy and injury benefits are administered and funded by the Council. The pension schemes are administered by the Research Councils' Joint Superannuation Services and the schemes' finances are administered by the BBSRC. Under the definitions set out in Financial Reporting Standard 102 the scheme is a multi-employer pension scheme. The charity is unable to identify its share of the underlying assets and liabilities of the scheme. Accordingly, the charity has taken advantage of the exemption of FRS 102 and has accounted for its contributions to the scheme as if it were a defined contribution scheme. For 2015/16, the group paid £1,985k (2015: £2,241k) in employer's contributions into the scheme. A separate Research Councils' Pensions Schemes Account was published for the year ended 31 March 2015 and contains the further disclosure of information under the relevant accounting standard. The combined schemes accounts as at 31 March 2016 have not yet been published, the total net liability as at 31 March 2015 was £4,351m (2014: £3,862m). The group expects to pay £2,084k in respect of employer's contributions in 2016/17.

Staff employed by Rothamsted Research are members of a defined contribution scheme, as noted on page 4. Group contributions made in 2015/16 amounted to £864k (2015: £644k), and there were no accrued or prepaid contributions at 31 March 2016 (2015: £Nil). In the year the Charity paid £6.8k in premiums for Professional Indemnity Insurance (2015: £5.8k).

Rothamsted Research Limited
NOTES TO THE FINANCIAL STATEMENTS
for the year ended 31 March 2016

10	TANGIBLE FIXED ASSETS		Assets in		Fixtures,	
		Buildings	course of	Plant and	fittings and	Total
		£'000	construction	machinery	vehicles	£'000
	GROUP		£'000	£'000	£'000	£'000
	Cost:					
	As at 1 April 2015	62,462	535	19,522	1,911	84,430
	Additions	-	47	1,082	244	1,373
	Disposals	-	-	(536)	(28)	(564)
	Transfers	-	(535)	535	-	-
	As at 31 March 2016	62,462	47	20,603	2,127	85,239
	Accumulated depreciation:					
	As at 1 April 2015	23,595	-	15,248	1,640	40,483
	Charge for the year	1,160	-	2,049	142	3,351
	Disposals	-	-	(509)	(28)	(537)
	As at 31 March 2016	24,755	-	16,788	1,754	43,297
	Net book value:					
	As at 31 March 2016	37,707	47	3,815	373	41,942
	As at 31 March 2015	38,867	535	4,274	271	43,947
	CHARITY		Assets in		Fixtures,	Total
		Buildings	course of	Plant and	fittings and	£'000
		£'000	construction	machinery	vehicles	
			£'000	£'000	£'000	
	Cost:					
	As at 1 April 2015	62,462	535	19,522	1,790	84,309
	Additions	-	47	1,082	244	1,373
	Disposals	-	-	(536)	(28)	(564)
	Transfers	-	(535)	535	-	-
	As at 31 March 2016	62,462	47	20,603	2,006	85,118
	Accumulated depreciation:					
	As at 1 April 2015	23,595	-	15,248	1,579	40,422
	Charge for the year	1,160	-	2,049	122	3,331
	Disposals	-	-	(509)	(28)	(537)
	As at 31 March 2016	24,755	-	16,788	1,673	43,216
	Net book value:					
	As at 31 March 2016	37,707	47	3,815	333	41,902
	As at 31 March 2015	38,867	535	4,274	211	43,887

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

10 TANGIBLE FIXED ASSETS (Continued)

Under the terms of the bare licence, the Charity has unencumbered usage of the buildings reported as fixed assets above. The trustee-directors are confident that the Institute will retain a legal right to occupy the land and buildings for the foreseeable future. The land is owned by The Lawes Agricultural Trust.

11 INVESTMENTS

GROUP	Unlisted investments 2016 £'000	Unlisted investments 2015 £'000
Valuation:		
As at 1 April 2015	87	87
Unrealised gain in the year	66	-
Net Book Value:		
As at 31 March 2016	153	87
As at 31 March 2015	87	87

The unlisted investments relate to the following holdings:

The Company owns 2,833 £0.01 ordinary shares in VSN International Limited, a 15.89% shareholding.

The Company also owns 103,675 £0.001 ordinary shares, a 0.9% shareholding in Insense Limited.

Investments are held at the Directors' estimate of fair value. The valuation was undertaken by management based on audited financial information.

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

11 INVESTMENTS (Continued)

CHARITY	Unlisted investments £'000	Shares in group undertakings £'000	Total £'000
Cost / valuation:			
As at 1 April 2015	87	45	132
Unrealised gain	66	-	66
	<u>153</u>	<u>45</u>	<u>198</u>
Impairment as at 1 April 2015 And 31 March 2016	-	(45)	(45)
As at 31 March 2016	<u>-</u>	<u>(45)</u>	<u>(45)</u>
Net Book Value:			
As at 31 March 2016	<u>153</u>	<u>-</u>	<u>153</u>
As at 31 March 2015	<u>87</u>	<u>-</u>	<u>87</u>

Shares in subsidiary undertakings

The Charity held the following shares in subsidiary undertakings at 31 March 2016:

	Shares held Class	%	Capital and Reserves £	Country of Incorporation
Rothamsted Research Holdings Limited (dormant)	Ordinary	100	(77,251)	England & Wales
Rothamsted International Consulting Limited (dormant)	Ordinary	100	2	England & Wales
Genetic Technologies Limited (dormant)*	Ordinary	100	2	England & Wales
Rothamsted Manor Limited	Ordinary	100	(452,706)	England & Wales
Rothamsted Experimental Station Limited (dormant)*	Ordinary	100	1	England & Wales

* held indirectly via Rothamsted Research Holdings Limited.

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

11 INVESTMENTS (Continued)

The results of Rothamsted Manor Limited (company no 03706064), for the year ended 31 March 2016, which are included in the consolidated financial statements, are set out below:

	2016 £'000	2015 £'000
Turnover	121	443
Cost of sales	(313)	(467)
	<u> </u>	<u> </u>
Retained loss for the year	(192)	(24)
Net liabilities at 1 April 2015	(261)	(237)
	<u> </u>	<u> </u>
Net liabilities at 31 March 2016	<u>(453)</u>	<u>(261)</u>
Being:		
Tangible fixed assets	40	59
Current assets	280	678
Current liabilities	(773)	(998)
	<u> </u>	<u> </u>
Net liabilities at 31 March 2016	<u>(453)</u>	<u>(261)</u>

Rothamsted Manor Limited's principal activity during 2015/16 was property management. No other subsidiary undertaking has traded during the year. Therefore, they have not been included in the consolidated financial statements on grounds of immateriality.

During the 2013/14 financial year, the Charity entered into a joint venture with Lawes Agricultural Trust and the BBSRC to construct new campus development. Rothamsted Centre for Research & Enterprise Limited (RoCRE), which changed its name from Rothamsted Research Centres Limited during 2014/15, has completed the construction of the campus development. Notwithstanding that RoCRE is currently 100% owned by the Charity, joint control is achieved by the operation of a Board on which each of the parties to the joint venture has representation. It is the intention of the parties, namely Rothamsted Research Limited, The Lawes Agricultural Trust and the BBSRC that the shareholding of RoCRE will be finalised in due course with Rothamsted Research Limited retaining 40% of the joint venture company's share capital. Accordingly, on the basis of joint control, the trustees consider RoCRE to be a joint venture. 40% of the results and the assets and liabilities of the joint venture for the year ended 31 March 2016 have been included in the consolidated financial statements of Rothamsted Research Limited as follows:

	2016 £'000	2015 £'000
Turnover	427	-
Administrative expenses	(527)	(1)
	<u> </u>	<u> </u>
Retained loss for the year	(100)	(1)
Net liabilities at 1 April 2015	(1)	-
	<u> </u>	<u> </u>
Net liabilities at 31 March 2016	<u>(101)</u>	<u>(1)</u>

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

11 INVESTMENTS (Continued)

	2016	2015
Being:	£'000	£'000
Tangible fixed assets:		
Fixed assets	5,091	-
Assets in the course of construction	-	5,008
Current assets	815	804
	<u>5,906</u>	<u>5,812</u>
Deferred income	(6,007)	(5,813)
Net liabilities at 31 March	<u>(101)</u>	<u>(1)</u>

12 DEBTORS

	Group 2016 £'000	Charity 2016 £'000	Group 2015 £'000	Charity 2015 £'000
Due within one year				
Trade debtors	3,139	3,399	4,296	4,296
Other debtors	194	60	447	117
Prepayments and accrued income	1,901	1,901	3,086	3,086
Due from joint venture	1,159	1,159	579	579
Corporation Tax (see note 8)	364	364	-	-
Due from subsidiary undertaking	-	529	-	727
	<u>6,757</u>	<u>7,412</u>	<u>8,408</u>	<u>8,805</u>
Other debtors – due after one year	-	-	7	7
	<u>6,757</u>	<u>7,412</u>	<u>8,415</u>	<u>8,812</u>

13 CREDITORS: Amounts falling due within one year

	Group 2016 £'000	Charity 2016 £'000	Group 2015 £'000	Charity 2015 £'000
Trade creditors	599	553	1,069	1,069
Other taxes and social security costs	241	241	-	-
Other creditors	705	1,188	660	619
Accruals	2,083	2,070	1,728	1,756
Due to joint venture	18	18	-	-
Deferred income (see page 46)	7,713	7,713	8,200	8,200
	<u>11,359</u>	<u>11,783</u>	<u>11,657</u>	<u>11,644</u>

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

13 CREDITORS: Amounts falling due within one year (continued)

Deferred income represents income received in advance of expenditure. The movement can be analysed as follows:	Group 2016 £'000	Charity 2016 £'000	Group 2015 £'000	Charity 2015 £'000
Opening balance	8,200	8,200	16,251	16,251
Amounts deferred during the year	7,713	7,713	8,200	8,200
Release of amounts previously deferred	(8,200)	(8,200)	(16,251)	(16,251)
	<u>7,713</u>	<u>7,713</u>	<u>8,200</u>	<u>8,200</u>

14 CREDITORS: Amounts falling due after more than one year	Group 2016 £'000	Charity 2016 £'000	Group 2015 £'000	Charity 2015 £'000
Redundancy accruals, relating to annual pension contributions for former staff	-	-	3	3
	<u>-</u>	<u>-</u>	<u>3</u>	<u>3</u>

15 INSURANCE

In line with government policy no proportion of funds contributed by Government bodies is expended upon insurance on equipment, stocks etc unless it is required by statute or where it is cost effective to do so. The Charity carries appropriate levels of insurance on all buildings, plant and equipment and has regular risk reviews and insurance audits.

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

16 COMMITMENTS

As at 31 March 2016, the Charity had capital commitments amounting to £347k (2015: £571k) in respect of buildings.

17 FUNDS

GROUP	Unrestricted 2016 £'000	Unrestricted 2015 £'000	Restricted 2016 £,000	Restricted 2015 £'000	Total 2016 £'000	Total 2015 £'000
Funds as at 31 March 2016	24,640	24,959	44,704	47,724	69,344	72,683
Funds balances are represented by						
Fixed assets	5,474	4,705	36,520	39,328	41,994	44,033
Current assets	30,525	31,914	8,184	8,396	38,709	40,310
Current liabilities	(11,359)	(11,657)	-	-	(11,359)	(11,657)
Long-term liabilities	-	(3)	-	-	-	(3)
	24,640	24,959	44,704	47,724	69,344	72,683
CHARITY	Unrestricted 2016 £'000	Unrestricted 2015 £'000	Restricted 2016 £,000	Restricted 2015 £'000	Total 2016 £'000	Total 2015 £'000
Funds as at 31 March 2016	24,744	24,962	44,704	47,724	69,448	72,686
Funds balances are represented by						
Fixed assets	5,535	4,646	36,520	39,328	42,055	43,974
Current assets	30,992	31,963	8,184	8,396	39,176	40,359
Current liabilities	(11,783)	(11,644)	-	-	(11,783)	(11,644)
Long-term liabilities	-	(3)	-	-	-	(3)
	24,744	24,962	44,704	47,724	69,448	72,686

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

17	FUNDS (continued)		
	GROUP	2016 £'000	2015 £'000
	GENERAL FUNDS		
	Balance brought forward	23,459	21,873
	Net income	(319)	2,336
	Transfer to designated fund	-	(750)
	Balance carried forward	<u>23,140</u>	<u>23,459</u>
	CHARITY	2016 £'000	2015 £'000
	GENERAL FUNDS		
	Balance brought forward	23,462	21,881
	Net income	(218)	2,331
	Transfer to designated fund	-	(750)
	Balance carried forward	<u>23,244</u>	<u>23,462</u>
	DESIGNATED ESTATE REBUILD FUND	2016 £'000	2015 £'000
	GROUP AND CHARITY		
	Balance brought forward	1,500	3,575
	Transfer to restricted fund	-	(2,825)
	Transfer from general fund	-	750
	Balance carried forward	<u>1,500</u>	<u>1,500</u>

The designated fund relates to funds set aside by the Trustees to ensure the long-term sustainability of the Institute's estate facilities. Funding received from the BBSRC for this purpose was reclassified as a restricted fund in 2014/15, following clarification received from the BBSRC.

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

17 FUNDS (continued)

GROUP AND CHARITY RESTRICTED	As at 1 April 2015 £'000	Income £'000	Expenditure £'000	Transfers between funds £'000	As at 31 March 2016 £'000
Capital fund	39,328	541	(3,349)	-	36,520
Estate Rebuild fund	6,688	524	(543)	-	6,669
Open Access fund	608	86	(96)	-	598
Newton fund	1,100	-	(183)	-	917
	<u>47,724</u>	<u>1,151</u>	<u>(4,171)</u>	<u>-</u>	<u>44,704</u>

The Capital fund principally represents funding received, largely from the Biotechnology and Biological Sciences Research Council, for the acquisition of tangible fixed assets. These assets are built on land that is not owned by Rothamsted Research Limited. It represents the net book value of such fixed assets. The Estates Rebuild fund represents funding received from the BBSRC in respect of ensuring the long term sustainability of the Institute's estate facilities. The Open Access fund represents funding received, primarily from the BBSRC, in respect of the RCUK requirement for publications to be openly available on a publisher's site. The Newton fund represents funding received from the BBSRC, in respect of increasing international partnerships with scientific organisations in Brazil, China, Colombia and the Philippines.

18. RECONCILIATION OF GROUP NET INCOME FOR THE YEAR TO NET CASH GENERATED BY / (USED IN) OPERATING ACTIVITIES	2016 £'000	2015 £'000
Net expenditure for the year	(3,339)	5,262
Adjustments for:		
Depreciation of tangible fixed assets	3,351	3,323
Dividends, interest and rents from investments	(221)	(213)
Gain on disposal of tangible fixed assets	(14)	(41)
Share of joint venture loss	100	1
Net capital grants	(582)	(4,233)
Investment gain	(66)	-
Operating cash flows before movements in working capital	<u>(771)</u>	<u>4,099</u>
(Increase) in stocks	(24)	(36)
Decrease/(increase) in debtors	1,658	(1,741)
(Decrease) in creditors	<u>(298)</u>	<u>(6,788)</u>
	<u>1,336</u>	<u>(8,565)</u>
Cash generated from operations	<u>565</u>	<u>(4,466)</u>

Rothamsted Research Limited
NOTES TO THE FINANCIAL STATEMENTS
for the year ended 31 March 2016

CASH AND CASH EQUIVALENTS		
	2016	2015
Cash and cash equivalents represent:	£'000	£'000
Bank Balances	12,451	13,599
Short Term Deposits 90 days or less	6,169	11,523
	<u>18,620</u>	<u>25,122</u>
19 RECONCILIATION OF CHARITY NET INCOME FOR THE YEAR TO NET CASH GENERATED BY / (USED IN) OPERATING ACTIVITIES	2016 £'000	2015 £'000
Net expenditure for the year	(3,238)	5,257
Adjustments for:		
Depreciation of tangible fixed assets	3,331	3,298
Dividends, interest and rents from investments	(221)	(194)
Gain on disposal of tangible fixed assets	(2)	(41)
Net capital grants	(582)	(4,233)
Investment gain	(66)	-
Operating cash flows before movements in working capital	<u>(758)</u>	<u>4,087</u>
(Increase) in stocks	(24)	(36)
Decrease / (increase) in debtors	1,400	(1,873)
Increase/ (decrease) in creditors	101	(6,644)
	<u>1,477</u>	<u>(8,553)</u>
Cash generated from operations	<u>719</u>	<u>(4,466)</u>
CASH AND CASH EQUIVALENTS		
	2016	2015
Cash and cash equivalents represent:	£'000	£'000
Bank Balances	12,263	13,257
Short Term Deposits 90 days or less	6,169	11,523
	<u>18,432</u>	<u>24,780</u>

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2016

20 RELATED PARTY TRANSACTIONS

BBSRC funds scientific research and equipment purchases for the Institute. Funding for 2015/16 was £20,682k (2015: £31,606k) and the breakdown of this is shown in Note 3. At the 2015/16 year-end BBSRC had £521k (2015: £3,024k) included within trade debtors of the Institute, £Nil (2015: £19k) included within trade creditors, and £Nil (2014: £Nil) included within accruals. Note 9 of the financial statements explains the staffing arrangements between BBSRC and the Institute. Land and buildings at North Wyke, Devon are owned by the Biotechnology and Biological Sciences Research Council and occupied by the Company under a formal lease and at a peppercorn rent.

LAT also funds scientific research through grants to the Institute, and in the year 2015/16 the value of this to the Institute was £330k (2015 - £316k). The Institute's subsidiary, Rothamsted Manor Limited (RML), collects rents and pays expenses on a number of LAT properties, which are then transferred to LAT. In the year 2015/16, RML paid out £535k (2015: £212k) in costs and collected £535k (2015: £174k) in income on behalf of LAT. At year-end, the charity was owed £12k (2015: £21k) by LAT, and RML was owed £43k by LAT (2015 - £196k). During the year the charity made a provision of £192k against the amount due from RML (see note 12), (2015: £24k). Details of the agreements regarding the Institute's use of buildings owned by LAT are set out in Note 10, which are currently rent free.

At the year end, the charity was owed £1,159k (2015: £579k) by Rothamsted Centre for Research & Enterprise Limited (RoCRE). Rothamsted owed RoCRE £18k.

Rothamsted Research is a member of Agrimetrics Ltd and performed administrative and scientific services for the company. The balance outstanding at the year-end being £156k.

21 CONTINGENT LIABILITIES

Under the terms of the contract between the Charity and the Biotechnology and Biological Sciences Research Council, should certain fixed assets be sold, a proportion of the proceeds might become payable by the Charity to the Research Council. No such liability exists at 31 March 2016 (2015: £Nil).

22 POST BALANCE SHEET EVENTS

In May 2016 the Board spent £1.7M on the purchase of land adjacent to North Wyke farm, and it is owned directly by Rothamsted Research Ltd.

23 TRANSITION TO FRS 102

The Charity has adopted FRS 102 for the year ended 31 March 2016 and has restated the comparative prior year results. The Group has recognised a provision for annual leave accrued by employees as a result of services rendered in the current period, and which employees are entitled to carry forward and use within the next twelve months. The provision is measured at the salary cost payable for the period of absence, and this has also been restated in the comparative prior year results:

Rothamsted Research Limited
NOTES TO THE FINANCIAL STATEMENTS
for the year ended 31 March 2016

	1 April 2014 £'000	31 March 2015 £'000
Reconciliation of fund balances - Group		
Funds as previously reported under previous UK GAAP	67,867	72,867
Annual leave provision accrual adjustment – FRS 102 restatement	(446)	(184)
Funds reported under FRS 102	<u>67,421</u>	<u>72,683</u>
Reconciliation of fund balances - Charity		
Funds as previously reported under previous UK GAAP	67,875	72,870
Annual leave provision accrual adjustment – FRS 102 restatement	(446)	(184)
Funds reported under FRS 102	<u>67,429</u>	<u>72,686</u>
Reconciliation of 2014/15 surplus		
	Group £'000	Charity £'000
Surplus as previously reported under previous UK GAAP	5,000	4,995
Impact of annual leave provision	262	262
Surplus reported under FRS 102	<u>5,262</u>	<u>5,257</u>

24 FINANCIAL INSTRUMENTS

	Group 2016 £'000	Charity 2016 £'000	Group 2015 £'000	Charity 2015 £'000
Financial assets at amortised cost	5,860	6,515	7,789	8,186
Financial liabilities at amortised cost	(3,405)	(3,829)	(3,457)	(3,444)

Rothamsted Research Limited
INCOME AND EXPENDITURE ACCOUNTS
for the year ended 31 March 2016

	Group 2016 £'000	Charity 2016 £'000	Group 2015 £'000	Charity 2015 £'000
Gross income of continuing operations	32,396	31,782	36,939	36,496
Total expenditure of continuing operations	(33,496)	(32,781)	(32,895)	(32,457)
Net income for the year	(1,100)	(999)	4,044	4,039
Net income for the year	(1,100)	(999)	4,044	4,039
Capital grants received	1,110	1,110	6,107	6,107
Expenditure of capital grants included in resources expended	(528)	(528)	(1,874)	(1,874)
Release of deferred capital grant in line with depreciation	(2,821)	(2,821)	(3,015)	(3,015)
Net (expenditure) / income for the year per SOFA	(3,339)	(3,238)	5,262	5,257