### ANNUAL REPORT AND FINANCIAL STATEMENTS

for the year ended

31 March 2013

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#### LEGAL AND ADMINSTRATIVE INFORMATION

#### **DIRECTORS**

Professor Nick Talbot (Chairman)

Professor Mark Bailey \*

Professor Richard Bardgett

Dr Graham Birch > + (Deputy Chairman)

Dr David Brightman\*

Mr Philip Chamberlain\$

Professor Edward Cocking FRS^

Ms Caroline Drummond \*

Professor Michael Elves +

Mr Jonathan Flowers \$\*

Dr David Lawrence

Mr Paul Leonard >

Professor Sir David Read FRS^

Ms Sally Smith %\*

- \* Member of Audit Committee
- + Member of Strategic Site Development Committee
- > Finance Dual Assurance Director
- \$ Retired 31<sup>st</sup> December 2012 ^ Retired 30<sup>th</sup> May 2013
- % Joined 1st May 2013

#### CHARITY NUMBER 802038

#### COMPANY NUMBER 2393175

#### **REGISTERED OFFICE**

Rothamsted Research Limited

Harpenden

Hertfordshire AL5 2JQ

#### **AUDITOR**

Baker Tilly UK Audit LLP

St Philips Point

Temple Row

Birmingham B2 5AF

#### PRINCIPAL BANKERS

Lloyds Banking Group

4th Floor, 25 Gresham Street

London EC2V 7HN

#### PRINCIPAL SOLICITORS

Anthony Collins Solicitors LLP

134 Edmund Street

Birmingham B3 2ES

#### REPORT OF THE TRUSTEES

The Directors submit their Annual Report together with the audited Financial Statements for the year ended 31 March 2013 Further information can be found at <a href="http://www.rothamsted.ac.uk/">http://www.rothamsted.ac.uk/</a>

#### 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 above, were as follows

#### **Directors**

Professor Nick Talbot (Chairman)

Professor Mark Bailey

Professor Richard Bardgett

Dr Graham Birch (Deputy Chairman)

Dr David Brightman

Mr Philip Chamberlain

Professor Edward Cocking FRS

Ms Caroline Drummond

Professor Michael Elves

Mr Jonathan Flowers

Dr David Lawrence

Mr Paul Leonard

Professor Sir David Read FRS

See also http://www.rothamsted.bbsrc.ac.uk/corporate/SeniorManagement.html

#### Institute Director

Professor Maurice Moloney

#### Officer

Company Secretary Stephen James

#### Constitution

Rothamsted Research Limited "the Institute" 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 Memorandum and 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 — most recently "Nature" and "Sunday Times" 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 Director and others as appropriate

There have been protracted discussions with government agencies concerning changes in governance and these have delayed any new appointments in the immediate past. These have now been resolved and revised schemes are being put into place (see page 4)

#### REPORT OF THE TRUSTEES

#### 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 Charity faces in the coming months. There were no new appointments during 2012/13 but Ms Sally Smith joined in May 2013.

#### **Third Party Claims**

The company 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 3<sup>rd</sup> October 2011

#### Until October 2011

Members of the Board of Directors are nominated by Lawes Agricultural Trust ("LAT") (6), by the Biotechnology and Biological Sciences Research Council ("BBSRC") (5), by the National Farmers Union (1), and by the Scottish Executive Rural Affairs Department (1 – currently a vacancy) The Chairman of the Board is jointly nominated by LAT and the BBSRC Directors are appointed to serve on an ad hominem basis. The Institute Director reports to the Chief Executive of BBSRC and the Board of Directors advises the Institute Director on the development of policy. Trustee Directors of Rothamsted Research serve as the Scientific Committee of the Lawes Agricultural Trust as defined in that organisation's Trust Deed. 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 a Conditions of Grant Letter. The Board has established three sub-committees for specific purposes.

- The Audit Committee is a standing committee which examines financial and audit reports and which considers business critical risks and health and safety matters
- The Rothamsted Site Re-Development Sub-Committee monitors matters relating to the progress of the Rothamsted site re-development master plan, particularly matters relating to cost, quality and to the achievement of critical milestones. As there has been little activity on site of this sort this has been replaced by the Board vice-Chairman attending the management organised Strategic Capital Development Committee.
- The Finance Committee critically reviews financial and business forward plans in the context of the mission and purpose of the Company and advises the Board on sensitivities and risks into the future

#### From October 2011

There may be between 9 and 15 sitting on the Board of Directors, LAT and 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. Directors are appointed to serve on an *ad hominem* basis. The Institute Director reports to the Chairman and the Board of Directors advises on the development of policy. Trustee Directors of Rothamsted Research serve as the Scientific Committee of The Lawes Agricultural

#### REPORT OF THE TRUSTEES

Trust as defined in that organisation's Trust Deed. 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 subcommittees for specific purposes, namely Audit and Strategic Site Development (see above), whilst other matters are covered by a "dual assurance" approach in which a single Director interacts with critical RRes staff across each of the four main science areas, finance, human resources, public engagement, knowledge exchange and international matters

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 Bluefin Ltd.

Of particular significance is that the BBSRC have withdrawn their customary status as "banker of last resort" for the Company and as a result of the accumulation of all these changes the organisation is no longer considered as a public sector establishment

There is also an appointments panel that is set up as required. The Board considers and is guided by the Code of Practice issued by the Charities Commission

#### **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

#### REPORT OF THE TRUSTEES

#### **Connected Charity and Companies**

The freehold interest in the land and buildings at two of the Company's two main operating sites (Rothamsted, Hertfordshire and Brooms Barn, Suffolk) is held by The Lawes Agricultural Trust, a charity with similar objects to Rothamsted Research. There is no written agreement for the occupation of these sites and no rent is charged to the Company by the Trust. Land and buildings at the third main site (North Wyke, Devon) is 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 at 1 April 2010 from the Lawes Agricultural Trust through the ownership of Lawes Agricultural Trust Holdings Limited RML provides catering, meeting and conference facilities almost exclusively for Rothamsted Research, together with property management services. Certain other subsidiary undertakings were also transferred as part of this arrangement but only RML has conducted any trading activities during the year.

To assist in meeting the public benefit through transfer into practice, Rothamsted Research works with a small charitable company "Rothamsted Research Association" as a very important conduit for knowledge exchange with the agricultural and land-based industries. It is currently a membership-based organisation (approximately 700 members), though this is currently undergoing a significant change in governance, with a significant history of interaction with the elite of technologically advanced farming businesses going back to the early part of the 20<sup>th</sup> century. It has its own Board of Trustees and is independent from Rothamsted Research Limited

The Company has a 17 7% 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 make steady improvements. The 2012/13 gross profit was £1,117 k (2011/12 £1,019k) with an operating profit of £278k (2011/12 £220k) and profit after tax of £342k (2011/12 £238k) with an improved turnover of £1 55 m (2011/12 £1 28m) achieved across all territories of the globe especially a three-fold improvement in Asia. With the expectation of modest share dividends in 2013/14, this company is now living up to its promise

#### 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 Audit Committee. The Board has overall responsibility for establishing key procedures designed to achieve systems of internal control and disclosure control for reviewing and evaluating their effectiveness. In addition, the Institute Director has delegated responsibility from the BBSRC for risk management and is required to submit an annual Director's Assurance Statement of Internal Control to the BBSRC.

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 major risks identified were the transfer of finance, HR and procurement to the Research Councils' Shared Service Centre, which took place in February 2011 In November 2011 it was announced that

#### REPORT OF THE TRUSTEES

these systems would transfer back to an in-house provision with effect from 1 April 2012, which resulted in the recognition of a different, but nonetheless significant risk whilst these functions were rebuilt in-house. At the same time the central provision by the BBSRC of IS/IT services to its institutes has ceased with this activity also transferring in-house, the requirement for the setting up of new skills, services and interfaces (both technical and commercial) has been another very significant risk given the huge reliance of the Institute on its IS/IT provision. Having both of these multifaceted and interdependent services that continually affect every facet of the Institute's operations undergo fundamental change at the same time represented a huge change and thus a substantial cumulative risk, especially at a time of momentous governance change. The Trustees are pleased to report that both of these transfers were entirely successful with almost exclusively positive outcomes on all transactional and operational activity and that this has been achieved with net decrease in costs to the Institute. Further and ongoing risk lies within the change in liabilities (for staff and BBSRC is no longer acting as a banker of last resort) that accompanied the change in governance such that they rest ultimately with the Institute and not with BBSRC as before, this risk continues

The day to day responsibility for implementation of risk management procedures and ongoing monitoring of risk and the effectiveness of controls rests with the Institute 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 both the Institute Executive and Institute Management Committees to which significant risks may be escalated for action or particular monitoring, as well as high level oversight by the Board via its Audit Committee.

The Rothamsted Research Audit Committee 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 Audit Committee twice a year with special attention to the progress towards mitigation measures and the identification of new risks

#### **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 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.

#### REPORT OF THE TRUSTEES

#### **OBJECTIVES AND ACTIVITIES (continued)**

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 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 are increasingly relevant.

The mission of Rothamsted Research is to be recognised internationally as a primary source of first-class scientific research and new knowledge that addresses stakeholder requirements for innovative policies, products and practices to enhance the economic, environmental and societal value of agricultural land

Rothamsted Research will accomplish its Mission through its Strategic Programmes (see page 9)

- o Improve crop quality and the sustainability of production systems,
- o Develop environment-enhancing management practices for agricultural land,
- o Predict and mitigate the impacts of climate change on agriculture and other land-based activities,
- O Develop methods for the reduction of fossil-fuel inputs to, and greenhouse gas emissions from managed land,
- o Protect and improve soil quality,
- o Exploit crops as renewable substitutes for fossil carbon feedstocks,
- o Conserve and utilise biodiversity,
- o Elevate society's confidence in science for agriculture and the environment

The Company's main objectives for the year were to

- · Achieve publications in high impact journals,
- Succeed in being awarded grants from scientifically reputable sources,
- Continue to enhance the sites to provide a high level of environment, services and facilities compatible with staff numbers

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 160 years ago. The major areas of activity are scientific research and postgraduate education and training Rothamsted is committed to ensuring that all of its research is published in widely available media of various types appropriate for the target audience

Throughout 2010/11 Rothamsted Research undertook a thorough review of its Strategy across all the organisation's activities and this came to fruition in mid-2011 with revised mission statements and objectives as well as restructuring of staffing, as required, to meet those objectives. This has formed the basis of the staff restructuring that took place in 2012/13

During 2012/13 Rothamsted Research undertook a major field trial of genetically modified wheat that had a gene introduced that coded for E-beta-farnesene, a pheromone chemical found widely in nature that is known to repel aphids. These sap-sucking insects can occur in large infestations on cereal crops but there main deleterious effect is due the transmission of serious virus diseases. This trial, supported by the BBSRC attracted a great deal of publicity both in support and in opposition. Those opposing the work publicly declared their intention to destroy the field and included a large demonstration held in May 2013. Thanks to added security funded by BBSRC as well as a very constructive and thorough operation by Hertfordshire Constabulary the crop was protected and constructive public engagement resulted.

REPORT OF THE TRUSTEES

#### ACHIEVEMENTS AND PERFORMANCE - Research Activities and benefits

Throughout 2012/13 the Institute has been continuing to refocus its research and describing 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" 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. The central scientific tenets of the new strategy are as follows

#### "20:20 Wheat®"

The goal of this theme is to generate the necessary science and technology to provide wheat germplasm and agronomic practices which are capable of yielding 20 tonnes of wheat per hectare by 2020

Wheat provides 20% of the world's calories for human consumption. Further pressure on wheat production and its eventual price as a commodity may also result from demand for bioenergy. Current average farm yield of wheat in the UK is only 8.4 tonnes per ha. Since 1980 wheat yields have only increased by about one-third, whereas maize yields have increased by more than 50%. Interestingly, wheat yields seem to have reached a plateau, whereas maize yields are increasing steadily.

#### "Cropping Carbon"

This multidisciplinary program addresses the ways in which agriculture can assist in mitigating our carbon footprint for energy production and utilization, through carbon sequestration and management of the emission of methane and nitrous oxide

In the coming decades, we shall be calibrating most economic and sociological activity in terms of our carbon footprint and agriculture contributes approximately 16% of our greenhouse gas emissions, much of it related not to CO2, but to potent greenhouse gases such as methane and nitrous oxide

### "Designing Seeds for Nutrition and Health"

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

Seeds are the raw material for a wide range of food and feed products and seed composition is a major determinant of a plant's nutritional quality and economic value. The relationship between nutritional quality and improved health and well-being is well established.

### "Delivering Sustainable Systems"

In Delivering Sustainable Systems, we shall 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 provides the unifying concepts and is one of the features that give the Rothamsted Research approach its unique qualities.

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### ACHIEVEMENTS AND PERFORMANCE: Knowledge Exchange through Commercialisation

We are totally committed to ensuring that scientific ideas make their way into benefitting the agricultural and related economies, this might be through free dissemination or using intellectual property protection as a means of ensuring commercialisation. We ensure that all of our arrangements with commercial companies have appropriate freedom for wide publication of data consistent with our charitable status and also we actively promote freedom for internationally recognised humanitarian uses of protected technologies. Therefore, we pursue appropriate arrangements in these contexts – this is often achieved through close working with partners with skill and a relevant track record. This remains an area of focus for the Institute Director who is committed to maximising the impact of our research through effective Knowledge Exchange and Commercialisation (KEC)

Entering the new strategic phase 2012-2017 marked an important transition for KEC, with KEC taking a more visible role in the activities of Rothamsted Research playing its part in delivering the pathways to impact agenda that is prominent within BBSRC A dedicated budget agreed with BBSRC as part of the IAE will help embed innovation throughout the Institute A Head of KEC has now been appointed at a senior level and other appointments are in the pipeline

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 enabling protected intellectual property to become part of innovative products (commercialisation)

Rothamsted Research Association will continue its activities aimed at farmers and agribusiness, and is now close to completing structural changes in order to be more effective, including changing from a membership organisation with the existing Board consolidating its role as a users' stakeholder group. In the 13/14 year we will continue with the Advanced Training Programme with Harpers Adams University and the University of Nottingham. We will continue to apply for technology development funds such as the BBSRC Pathfinder and Follow on Funds, in addition to other funding streams such as SPARK to help the research community to transfer their knowledge. A new KEC web-site is currently in development.

We are increasing our activities to identify new sources of commercial income. This will be achieved through attendance at suitable events, and by identifying and targeting potential partners. Licensing activities will continue in the year ahead. Our synergist patent has been licensed to a UK company. We are now in talks with potential licensees for our EPA omega-3 oilseed technology. We will continue supplying contract research services to global industry. This activity will deploy unused capacity in greenhouses or controlled environment. There are three new tenants of the Lawes Agricultural Trust (LAT) in the Daniel Hall incubator building, including the UK based plant research company. Plant Impact PLC It is hoped that this company and new LAT tenants will work with Rothamsted Research scientists and make use of spare capacity in facilities such as Glasshouses and Controlled Environment. We continue to work with LAT to seek additional tenants.

Intellectual Property and similar activities in 2012/13 are worthy of note

- To date we manage 23 patent families, 5 plant varieties and 2 trademark families Of the 23 patent families 5 have been licensed or fully/partly assigned
- We manage 167 patents and patent applications, 5 plant variety applications and 6 trademarks
- 3 We made 9 patent applications in 2012/13
- The number of patents granted worldwide in 2012/13 was 16

#### REPORT OF THE TRUSTEES

## ACHIEVEMENTS AND PERFORMANCE: Knowledge Exchange through Commercialisation - (continued)

- 5 In total we have 72 granted patents
- In addition there are another 10 patent families where scientists are inventors but where the rights to the patents have been completely assigned to third parties
- 7 17 Copyright Licences were agreed allowing (in the main) third parties to use our copyright materials at no charge. In a small minority of cases we did ask for a small fee. We are currently working the copyright licences to an online automated system.
- A delegation from Rothamsted attended the BIO2013 congress in Chicago At this event 51 oneon-one partnering meetings were held with a range of companies
- 9 Negotiations are underway with a view to licencing our Omega 3 technology
- We have been in discussions with a number of parties to explore licencing and development opportunities for our various technologies in chemical ecology

## ACHIEVEMENTS AND PERFORMANCE - Papers published in high impact journals during 2012 (calendar year)

An important measure of its success in delivering significant scientific advances into the public domain (and thus an indicator of public benefit) is the number and quality of academic publications in the scientific literature. Rothamsted Research, published 316 papers in refereed journals in 2012 (307 in 2011, 346 in 2010, 284 in 2009, 359 in 2008). 276 (268 in 2011) papers had Rothamsted (Harpenden)-based authors and 40 (43 in 2011) came from North Wyke. There were 2 (4 in 2011) papers that had authors from both the sites.

65 papers were published in journals with an impact factor of 5 or more (65 in 2011, 50 in 2010, 39 in 2009) and 20 in high impact journals such as PNAS, Science and Plant Cell (12 in 2011, 16 in 2010, 11 in 2009) The range (excluding journals with no impact factors) was 32 4 (Nature Biotechnology) to 0 24 (International Sugar Journal)

Both the median (3 in 2012, 2 8 in 2011, 2 7 in 2010, 2 5 in 2009) and mean (3 8 in 2012, 3 6 in 2011, 3 5 in 2010, 3 2 in 2009) impact factors (including journals with no impact factor) continue to show modest but steady improvement

Web of Science (WoS) was searched for citation data for individual papers published in 2012 Clearly papers published in January are more likely to have gathered citations than those published in December, and many 2012 papers were available and citable on-line in 2011. At the time of writing on 19<sup>th</sup> June 2013, there are 8 papers for 2012 with 10 or more citations (9 for 2011 at 11 7 2012, 20 for 2010 at 11 7 2011, 13 for 2009 at 10 8 2010). Four of the 8 'highly cited' papers were published in journals with impact factors of less than 5

#### REPORT OF THE TRUSTEES

2012 papers with 10 or more citations to date

Dean, R, Van Kan, J A L, Pretorius, Z A, Hammond-Kosack, K. E., Di Pietro, A, Spanu, P D, Rudd, J. J., Dickman, M, Kahmann, R, Ellis, J & Foster, G D (2012) The top 10 fungal pathogens in molecular plant pathology *Molecular Plant Pathology* 13, 414-430 <a href="http://dx.doi.org/10.1111/j.1364-3703.2011.00783">http://dx.doi.org/10.1111/j.1364-3703.2011.00783</a> X

Times cited 29 Impact factor 39

Luna, E., Bruce, T. J. A., Roberts, M R, Flors, V & Ton, J (2012) Next-generation systemic acquired resistance *Plant Physiology* **158**, 844-853

http://dx.doi.org/10.1104/pp.111.18.7468

Times cited 27 Impact factor 65

Adams, M.J. & Carstens, E B (2012) Ratification vote on taxonomic proposals to the International Committee on Taxonomy of Viruses (2012) *Archives of Virology* 157, 1411-1422 <a href="http://dx.doi.org/10.1007/s00705-012-1299-6">http://dx.doi.org/10.1007/s00705-012-1299-6</a>

Times cited 25 Impact factor 2

Slaughter, A, Daniel, X, Flors, V, Luna, E., Hohn, B & Mauch-Mani, B (2012) Descendants of primed Arabidopsis plants exhibit resistance to biotic stress *Plant Physiology* **158**, 835-843 http://dx.doi.org/10.1104/pp.111.191593

Times cited 17 Impact factor 65

Merhej, J, Urban, M., Dufresne, M, Hammond-Kosack, K. E., Richard-Forget, F & Barreau, C (2012) The velvet gene, FgVe1, affects fungal development and positively regulates trichothecene biosynthesis and pathogenicity in Fusarium graminearum *Molecular Plant Pathology* 13, 363-374 <a href="http://dx.doi.org/10.111.1/j.1364-3703.2011.00755.x">http://dx.doi.org/10.111.1/j.1364-3703.2011.00755.x</a>

Times cited 12 Impact factor 39

**Dungait, J. A. J.,** Hopkins, D. W., **Gregory, A. S. & Whitmore, A. P.** (2012) Soil organic matter turnover is governed by accessibility not recalcitrance. *Global Change Biology* **18**, 1781-1796 <a href="http://dx.doi.org/10.111.1/j.1365-2486.2012.02665.x">http://dx.doi.org/10.111.1/j.1365-2486.2012.02665.x</a>

Times cited 11 Impact factor 69

Anders, N, Wilkinson, M. D., Lovegrove, A., Freeman, J., Tryfona, T, Pellny, T. K., Weimar, T, Mortimer, J C, Stott, K, Baker, J. M., Defoin-Platel, M., Shewry, P. R., Dupree, P. & Mitchell, R. A. C. (2012) Glycosyl transferases in family 61 mediate arabinofuranosyl transfer onto xylan in grasses Proceedings of the National Academy of Sciences, USA 109, 989-993 <a href="http://dx.doi.org/10.1073/pnas.11">http://dx.doi.org/10.1073/pnas.11</a> 15858109

Times cited 11 Impact factor 97

Powlson, D. S., Bhogal, A, Chambers, B J, Coleman, K., Macdonald, A. J., Goulding, K. W. T. & Whitmore, A. P. (2012) The potential to increase soil carbon stocks through reduced tillage or organic material additions in England and Wales a case study Agriculture, Ecosystems and Environment 146, 23-33 <a href="http://dx.doi.org/10.1016/j.ag.ee.2011.10.004">http://dx.doi.org/10.1016/j.ag.ee.2011.10.004</a>

Times cited 10 Impact factor 28

### REPORT OF THE TRUSTEES

#### 4-year Retrospective

Last year, WoS was used to perform some simple analyses of papers published in the four years 2008 to 2011 This has been repeated for the four years 2009-2012. There are 1383 journal papers and reviews with an Institute address included in WoS for the years 2009-2012 (1243 for the years 2008-2011). There are currently 11568 citations of these 1383 papers (9961 without self-citations), giving an average of 8 36 citations/paper (9 83 for 2008-2011).

The Institute's H-index is currently 43 (though the H-index was not intended to be applicable to institutions<sup>1</sup>) Average citation rate and the H-index (44 for the 2011 exercise) have declined slightly, probably due to the omission of a single highly-cited 2008 Science paper that had accumulated 376 citations by 1<sup>st</sup> July 2012 There are 6 papers published between 2009 and 2012 with 100 or more citations with the most highly cited paper having 200 citations

International Aphid Genomics Consortium including, Zhou, J-J., He, X-L., Liu, R., Field, L. M., Davies, T. G. E. & Williamson, M. S. (2010) Genome sequence of the pea aphid Acyrthosiphon pisum *PLoS Biology* 8, e1000313 (24pp) <a href="http://dx.doi.org/10.1371/journal.pbio.1000313">http://dx.doi.org/10.1371/journal.pbio.1000313</a>
Times cited: 200

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Times cited: 156

Guo, J. H., Liu, X. J., Zhang, Y., Shen, L. J., Han, W. X., Zhang, W. F., Christie, P., Goulding, K. W. T., Vitousek, P. M. & Zhang, F. S. (2010) Significant acidification in major Chinese croplands. *Science* 327, 1008-1010. http://dx.doi.org/10.1126/science.1182570

Times cited: 141

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Times cited: 126

<sup>&</sup>lt;sup>1</sup> The problem with applying the H-index to institutions is mainly one of comparability. The number on its own only has value when tracked over time to show the trend, but direct comparison with other organisations is highly problematic because publication rates and citing behaviour differ across disciplines. For instance, for John Innes' publications over the same timespan, gives fewer papers (789) but a higher H-index score (47) and average cites/paper of 14.44. However, most of their papers are published in plant science, general science or genetics journals, whereas many of those from Rothamsted Research are published in soil science, crop protection and environmental science journals, so comparisons are not necessarily valid.

REPORT OF THE TRUSTEES

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#### **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 gives examples of such successes in drawing on a variety of sponsors and covering the broad range of scientific activities to be found at Rothamsted. The grants of above £150,000 total value to the Institute won by Rothamsted Research during financial year 2012/13 are shown in the table below. The total shown here amounts to some £11 97m (spread over 3-5 years of income). Although single year on year comparators of grants won are unreliable indicators this is significantly better than last year (£6 9m) based on the same criteria and is a very encouraging total on which to base our future plans. This includes an impressive £1 88m achieved by Frank van den Bosch, a total of £4 65m from BBSRC responsive mode grants, £2 75m won from DEFRA and £0 6m from the European Union

The ISPG and related BBSRC strategic grants are shown separately in a second table. These are of huge strategic importance to Rothamsted Research reflecting the commitment to the Institute shown by the BBSRC to this area of scientific endeavour and the potential beneficial impact for UK economy and the global food and energy security agenda

Grant Title	Total Value to RRes (£)*	Start Date	Principal Investigator	Grant Body
RIPE Realising Increased Photosynthesis efficiency	872,742	26/10/2012	Martin Parry	University of Illinois
Improved disease monitoring and management for wheat and cassava through epidemiological modelling	768,172	01/10/2012	Frank van den Bosch	Gates Foundation
SMART Cereals for management of stemborer pests in staple cereals in Africa	756,252	01/09/2012	Toby Bruce	BBSRC
The interplay of rodent behaviour and semiochemistry from scientific principles to control strategies	721,873	16/04/2012	John Pickett	BBSRC
Combating resistance to aphicides in UK aphid Pests	592,936	01/04/2012	Steve Foster	DEFRA LINK
Trehalose pathway signaling as a generic mechanism to improve crop yield	562,791	01/12/2012	Matthew Paul	Syngenta
Understanding the role of lipases in controlling seed storage oil composition	542,845	01/03/2013	Peter Eastmond	BBSRC

REPORT OF THE TRUSTEES

Improvement of soil structure and crop yield by adding organic matter to soil (WOrMSS)	513,080	03/09/2012	Andy Whitmore	AHDB
Substrates of the N-end rule of targeted protein degradation	401,381	01/11/2012	Freddie Theodoulou	BBSRC
Elucidating the importance of the pools of nitrate in soils on denitrification	369,026	01/09/2012	Laura Cardenas (NW)	BBSRC
Combating herbicide resistance by developing and promoting more sustainable grass-weed control strategies	355,430	01/04/2012	Stephen Moss	Defra
Fundamental basis of biological soil resilience	320,315	07/03/2013	Andy Whitmore	BBSRC
Phenotyping root function in wheat	311,501	01/10/2012	Richard Whalley	BBSRC
Epidemiological modelling for the spread and control of Chalara fraxinea	304,787	22/03/2013	Frank van den Bosch	BBSRC / DEFRA
The role of lipids in determining gas bubble retention in wheat dough	303,524	04/01/2013	Peter Shewry	BBSRC
Combating insecticide resistance in major UK pests	300,002	01/01/2013	Frank van den Bosch	DEFRA via ADAS
Improving yield through management of soil organisms under cropping	300,000	10/12/2012	Andy Whitmore	DEFRA
Competitive maize cultivation with reduced environmental impact	289,693	01/09/2012	Phil Murray (NW)	DEFRA
Implementing Component 2 of Demonstration Test Catchments - to test integrated diffuse pollution migration measures for arable cropping, livestock, dairy and other farming systems	272,285	01/06/2012	Martin Blackwell (NW)	DEFRA
Consequences of intensive fungicide use or integrated disease management for fungicide resistance and sustainable control- Modelling	260,635	01/01/2013	Frank van den Bosch/Bart Fraaije	DEFRA (via ADAS) and HGCA
Fungal effectors as activators of novel resistances in cereals	256,408	17/12/2012	Kostya Kanyuka	BBSRC
SUPERGEN Bioenergy hub	255,181	01/06/2012	Ian Shield	EPSRC via University of Manchester

REPORT OF THE TRUSTEES

Assessing the resistance risks associated with systemic fungicide seed treatments and the effectiveness of risk modifiers - modelling	248,880	01/01/2013	Frank van den Bosch/Bart Fraaije	DEFRA (via ADAS) and HGCA
LTLS Analysis and simulation of the long-term/large scale interactions of C, N and P in UK land, freshwater and atmosphere	240,278	04/01/2013	Andy Whitmore	NERC
Ionic liquid biorefining of lignocellulose to sustainable polymers	228,693	01/02/2013	Angela Karp	EPSRC via Imperial College
PyNaMite -mode of action and selectivity of pyretyhroids on economically important mites and ticks (Support for Training and career development of researchers (Marie Curie))	214,467	01/10/2012	Lın Field	EU
LOGISTEC-Logistics for Energy Crops 'Biomass	203,864	01/09/2012	Ian Shield	EU
An Integrated model for predicting bumblebee population service in in Agro-Ecosystems (BumblePoP)	196,318	01/02/2013	Alison Haughton	with University of Exeter
The supply and installation of radar equipment (ESI Radars)	195,649	06/01/2013	Jason Chapman	University of Exeter
ANAEE Infrastructures for Analysis and Experimentation and Ecosystems	182,608	01/11/2012	Chris Rawlings	EU
Exploiting yield Maps and soil management zones	177,304	01/01/2013	Andy Whitmore	HGCA
Minimisation of sugar yield losses due to frost - 11/04	154,700	01/04/2012	Eric Ober	BBRO
CIMMYT determining Rubisco kinetic data from diverse monocots	152,439	01/07/2012	Martin Parry	CYMMIT
Development of a process scheme for the production of high value functional products from DDGS	150,521	03/01/2013	Peter Shewry	BBSRC
			3D C	h council awards

<sup>\*</sup> Note that the values are at approved Full Economic Costs, BBSRC and other research council awards are provided at 80% of the amount shown All others are at full value received

BBSRC STRATEGIC GRANT TYPE	Total 2012/13 to 2016/17* £ millions
National Capabilities	
Insect Survey	1 554

REPORT OF THE TRUSTEES

NW Farm Platform	1 647
NW Farm Costs	4 563
PHI-Base	0 275
LTE and Archive and ERA	3 220
Total NC	11 259
ISPGs	
20/20/11/1	14 695
20/20 Wheat	
WISP LOLA	1 435
Sub-total	16 130
Cropping Carbon	7 377
Designing Seeds	8 222
Sustainability	14 373
Total ISPG's	46 102
	6 393
Institute Development Grant	<u> </u>
KETC	5 130
Total for 5 years*	68 884
* Subject to mid-term Review	w and CSR

# Rothamsted Research Limited REPORT OF THE TRUSTEES

#### **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 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 are successfully met. 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 steps whenever we can to ensure this is achieved. 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 as 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 <a href="http://www.rothamsted.bbsrc.ac.uk/intopractice/Impact.html">http://www.rothamsted.bbsrc.ac.uk/intopractice/Impact.html</a>. 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. In 2012/13 we initiated a contract that will provide some measures of this impact and report in 2014.

REPORT OF THE TRUSTEES

#### **PUBLIC BENEFIT (continued)**

Indirect benefit may arise from a commercial company seeing new opportunities within our research findings, but this is incidental and 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 patent protection and therefore fully accept that such an approach can be a legitimate form of comprehensive dissemination. Any financial benefit is captured by the charity in order to further pursue its Object.

#### 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 and the new award made in March 2012 also has no provision for inflation. This previous period also came after a period of decreases in DEFRA funding from approximately one third of total income to one ninth. This legacy has given us substantial challenges and only in 2012/13 have we achieved stability, this has been achieved through significant restructuring to improve our position with the benefit of financial support from BBSRC. Subject to public sector procedures, oversight and controls, progress has been slower than wished by the Board. Staffing levels (on a full time equivalent basis) have now decreased to 349 for the charity (397 in 2012, 430 in 2011, 477 in 2010 [increase due to North Wyke merger], 416 in 2009). Staff costs (excluding redundancy costs) have been kept under control at £16,410k for the charity (2012. £18,118k, 2011. £19,612k) and £16,805k. (2012. £18,485k) for the group Inflationary pressures continue in relation to the cost base of the Company, of particular note is the cost of utilities and the employer's contribution to the JSS pension scheme to 26% in 2012/13.

At the same time income levels relating to continuing operations (c f total incoming resources, below) – see income and expenditure account summary after Note 21 of the financial statements - have increased to £37,689k (2012 £31,378k, 2011 £32,423k, 2010 £30,741k) for the charity, whilst costs fell to £28,339k (2012 £29,650k, 2011 £28,896k, 2010 £33,875k) The resulting net income position that results is an improved overall (for the charity) surplus of £9,350k for the year (2012 £1,728k surplus, 2011 £3,527k surplus, 2010 £3,134k deficit) This significant surplus enables the charity to have a balance sheet more appropriate for the size of undertaking and a cushion against unexpected events or planned investments

The Trustees recognised that as well as driving income, a continued emphasis on cost saving is essential and a restructuring plan around the new scientific strategy was initiated in 2011. Although expected to be complete in 2012, public sector processes meant that a full reduction was not achieved until 31 March 2013. A business plan, based on improved diversity of income and the reduction of posts through the restructuring programme has been approved by the Trustees and this is revised annually

Regarding fixed assets, the carrying value of the VSNi investment was reassessed. The preference share value was reduced in 2012/13 due to the post year end surrender of the preference shares which represented the best value available. This has also given the company greater flexibility going forward, it is likely that 2013/14 will bring a modest level of dividend for the first time.

#### **Principal Funding Sources**

Incoming resources for the group totalled £43,279k (2012 £36,814k, 2011 £38,340k, 2010 £41,432k) of which £38,199k related to unrestricted funds (2012 £31,042k, 2011 £29,981k, 2010 £29,602k)

Incoming resources for the Charity for the year totalled £42,769k (2012 £36,350k, 2011 £37,782k, 2010 £41,432k) of which £37,689k was relating to unrestricted funds (2012 £30,578k, 2011 £30,660k, 2010 £29,602k) 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

REPORT OF THE TRUSTEES

#### FINANCIAL REVIEW (continued)

#### Principal Funding Sources (continued)

The core strategic grant (ISPGs et cetera) from BBSRC for 2012/13 remained similar at £13,390k compared with £13,209k in 2011/12 (2010/11 at £13,209k) for the year Reflecting continued efforts of staff in increasing BBSRC competitive grant income this has risen to £6,105k (2012 £5,075k, 2011 £6,292k, 2010 £5,689k) This is encouraging after last year's fall and follows the previous 3 successive years of increase. 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 achieving only £2,487k in 2012/13, which is a concern, but Trustees noted some significant DEFRA grants in the pipeline (see Grants won, above). (DEFRA income to end March 2012 was £3,990k, 2011 £3,786k, 2010 £4,517k, 2009 £3,159k – note increase on merger with North Wyke in 2009/10). We are conscious that it remains a risk. We 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, but only modest funding is available in this department and we can rarely afford to maintain the required teams of researchers when funding is not being received.

We are disappointed that the British Beet Research Organisation has changed the orientation of its funding with a much greater emphasis on near-market activities and less on the longer-term, ground-breaking research that has formed the basis of the UK sugar beet industries' success over several decades. In so doing, the BBRO has also withdrawn from the field and laboratory facilities at Brooms Barn, a process that will be largely complete by March 2014. However, we look forward to exciting new field-focussed facilities being developed at the Brooms Barn site in the near future based around an Arable Farm Platform, such that the site will continue to serve the UK arable industry

Overall, it is unquestionably the case that food security as well as climate change (and thus biofuels) are very high on the political agenda and Rothamsted Research is extremely well placed to exploit such opportunities even in a period of austerity

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. In particular, there has been a significant consolidation of staff accommodation, due to the decrease in numbers over many years, such that three buildings are now empty of Rothamsted staff — the Russell Building, the Fisher Building and the Daniel Hall Building. These represent 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 are planned for 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.

#### Investment policy

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 research outcomes from the Company's activities are put into practice in an effective, sustainable manner. Thus, the purpose of holding these investments is to achieve returns of both income and capital growth as these companies market their intellectual property obtained from research in the commercial market place. Although the investments have yet to provide any returns, the directors expect them to generate significant returns in the future that will be used to help finance the Company's research programmes.

#### REPORT OF THE TRUSTEES

#### FINANCIAL REVIEW (continued)

#### Investment policy (continued)

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 only used the major UK clearing banks for these deposits with only modest interest rates — we have not been able to match nor exceed inflation as measured by the retail price index.

#### Reserves policy

The directors closely monitor the reserves of the Company via the finance dual assurance structure. 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 habilities 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, but the level of reserves has been improved in 2012/13 and every effort should be made to ensure that this stronger position should be maintained. Overall, the Company's reserves policy seeks to ensure that sufficient reserves are available to fulfil cash flow obligations and longer term liabilities, it is recognised that a detailed review and restatement of the reserves policy is overdue and will be undertaken in 2013/14

#### **FUTURE DEVELOPMENTS**

The Company will continue to be principally engaged in the field of agricultural, agri-ecology and climate change research, specifically crop science and crop protection, seed quality and contribution to diet and health, analysing and mitigating the carbon footprint of agriculture through biofuels and understanding sustainable agricultural systems and how that might be maximised in practice. We also will be taking forward our well-established commitments to ensure our scientific insights and discoveries are put into practice by dialogue with various users in the food chain, especially farmers, and by protecting intellectual property such that commercial companies can place innovative products in the market place.

The re-alignment of funding by BBSRC into Institute Strategic Programme Grants and the ending of the "light touch" approach to these grants by BBSRC has changed the approach. Throughout 2011 detailed, iterative reviews of all aspects of the Institute's activities were carried out by the BBSRC culminating in a Panel visit. The final announcements were made in early 2012 in time for the new funding cycle to start in April 2012 at the beginning of this reporting year. The review of Rothamsted Research plans was very largely successful with BBSRC providing continued support at the level requested. The priority will be to ensure that all our BBSRC-funded research is internationally competitive with the best academic groups in our area of endeavour. We note the need to control pay costs through controlling the total headcount.

At North Wyke, the establishment of the "Farm Platform" (3 hydrologically separate and closely monitored farmlets) through very significant funding from BBSRC provides opportunities to attract a large number of new funding bodies to this unique facility. It has attracted a great deal of excitement and attention and its future will further enhance the reputation of North Wyke and as it progresses towards its truly experimental phase we aim to repeat this success by the establishment of an Arable Farm Platform at the Institute's Brooms Barn site. At a formal consultation workshop stakeholders have given their support for such a venture noting that it is urgently required in the UK, so we look for ways to make this a reality the coalition government's "Agri-Technology Strategy" is a unique initiative and may represent an opportunity to pursue this aim

REPORT OF THE TRUSTEES

#### **FUTURE DEVELOPMENTS (continued)**

There will be many other challenges for the Company The greatest emphasis for future income will be on obtaining funding from industrial and European Union sources and resources will be allocated towards achieving this

After considering the options, the RRes Board of Trustees agreed that RRes must negotiate, prepare and arrange a cost effective exit from the SSC with effect from 1st April 2012. This was agreed with BBSRC, and the SSC fully co-operated in all respects to facilitate the exit. This exit has now been achieved in full with all essential processes and procedures operating well with good satisfaction levels from a significant majority of staff at Rothamsted Research.

The recognition that land has a major role in the production of alternative fuels through crop production is now very widespread in political circles. Emerging public opinion will have an important part to play in how the global limitations in available land are to be approached. This, in turn, will lead to an emphasis on the importance of efficient crop production through whatever is the most appropriate technology and possible increasing interest in all of these technologies from Government departments. Now that North Wyke is part of Rothamsted Research we have a truly impressive coverage of temperate crop science, including the exploitation of grass as a valuable crop in the wetter, temperate regions. We are aware that we must continue to take action to ensure that all of the Rothamsted Research activities are fully integrated from North Wyke in the west to Brooms Barn in the east. We believe this suggests a very bright future for Rothamsted Research and the new opportunities that will become available

After long term discussions with the local planning authorities to establish a "Green Innovation Park" on land adjacent to our main laboratories at Rothamsted this concept has now become incorporated into the local Core Strategic Plan as well as the larger planning for the area These plans are now void after direction from central government, but local support remains very high and further determined, energetic canvassing of the Hertfordshire Local Enterprise Partnership has resulted in the "Rothamsted Centre for Research and Enterprise (RCRE) being a central component of their growth strategy We believe the Institute will provide a nucleus, unique to the UK, around which a variety of new commercial initiatives would cluster, further this is almost certain to be an essential component of attracting government and other funding in the future A formal proposal and business case will be submitted to BBSRC for BIS funding, which if granted will represent a turning point for all of the stakeholders and an opportunity to attract partners from UK, Europe and especially, considering the Institute's international standing, from around the world including the BRIIC countries This project will be jointly owned by Rothamsted Research, Lawes Agricultural Trust Company Ltd (LATCo) and, wherever possible, with BBSRC However, some of the land is in Green Belt and so actual planning permission in that area will still be a challenge

The site at Rothamsted is too large for the current number of staff so that the total accommodation available on site exceeds that required by Rothamsted Research. As a result a plan has been proposed in which the Company rationalises and remodels certain buildings whilst making the unwanted ones available to the landlord to generate an income through rental as part of the RCRE. Rothamsted Research has been occupying these without a commercial lease, so it remains uncertain how much expenditure the Institute will need to commit to addressing dilapidations as part of this arrangement. One of these buildings has attracted interest from tenants and we are pleased to report that 4 tenants are now in position, though vacant space remains. The other two buildings represent similar opportunities to incorporate in the RCRE project. Noting that as Rothamsted Research no longer occupies the whole site and in recognition of the need to modernise the relationship, LATCo is proposing a formal lease with Rothamsted Research, it is currently envisaged that this will be an agreed amount and at least nominally charged for with the majority of funds being returned to Rothamsted Research to undertake research projects.

#### REPORT OF THE TRUSTEES

#### **FUTURE DEVELOPMENTS (continued)**

With senior retirements and resignations imminent, succession planning will continue to be achieved through new recruitment to priority areas as well as through advancing the careers of younger scientists and ensuring that they are fully equipped to take leading roles in the future development of the organisation

Since joining in Spring 2010 as the 12<sup>th</sup> Director of Rothamsted Research, Professor Maurice Moloney has reoriented strategies across the whole organisation and has been very vigorous in building relationships with new funders – especially multi-national industries – and attracting new talent to meet the challenges of the future. We are sorry to announce that he will be leaving in December 2013 to join the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia where he has been offered the post of Group Executive, Food, Health and Life Science Industries. We are sorry to see him go but this is a major and exceptional career opportunity, so we wish him well. He leaves Rothamsted Research in a very positive and forward looking position that is likely to attract equally dynamic and capable applicants

#### **AUDITOR**

Baker Tilly 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.

By Order Of The Board

Company Secretary

Rothamsted Research Limited

24/9/013

Harpenden

Hertfordshire

AL5 2JQ Dated

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#### 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 Report of the Trustees 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 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.

## 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 2013 on pages 26 to 50 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)

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 24 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

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 <a href="http://www.frc.org.uk/Our-Work/Codes-Standards/Audit-and-assurance/Standards-and-guidance-for-auditors/Scope-of-audit/UK-Private-Sector-Entity-(issued-1-December-2010) aspx</a>

#### 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 2013 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,
- 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 Report of the Trustees 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

SIMON HART (Serior Statutory Auditor)

For and on behalf of BAKER TILLY UK AUDIT LLP, Statutory Auditor

St Philips Point Temple Row Birmingham B2 5AF

Date 28/10/2013

### CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES

for the year ended 31 March 2013

,	Notes	Unrestricted funds £'000	Restricted funds £'000	Total funds 2013 £'000	Total funds 2012 £'000
INCOMING RESOURCES Incoming resources from generated funds - activities for generating funds - investment income	1 2	698 249	-	698 249	751 32
Incoming resources from charitable activities - scientific research - postgraduate education and training	3	36,927 325	5,080 -	42,007 325	35,107 924
TOTAL INCOMING RESOURCES		38,199	5,080	43,279	36,814
RESOURCES EXPENDED Costs of generating funds -costs of goods sold and other costs	5	634	-	634	596
Charitable activities	6a	28,124	7,088	35,212	34,601
Governance costs	7	198		198	217
TOTAL RESOURCES EXPENDED		28,956	7,088	36,044	35,414
NET INCOMING RESOURCES TRANSFERS BETWEEN FUNDS	17	9,243 2,402	(2,008) (2,402)	7,235	1,400
NET MOVEMENT IN FUNDS IN YEAR		11,645	(4,410)	7,235	1,400
RECONCILIATION OF FUNDS					
Fund balances at 1 April 2012		7,763	49,082	56,845	55,445
Fund balances at 31 March 2013		19,408	44,672	64,080	56,845

No separate Statement of Total Recognised Gains and Losses has been presented as all such gains and losses have been dealt with in the Statement of Financial Activities

All incoming resources and resources expended derive from continuing activities

### CHARITY STATEMENT OF FINANCIAL ACTIVITIES

for the year ended 31 March 2013

	Notes	Unrestricted funds	Restricted funds	Total funds 2013	Total funds 2012 £'000
INCOMING RESOURCES Incoming resources from generated funds - activities for generating funds - investment income	1 2	188 249	- -	188 249	287 32
Incoming resources from charitable activities - scientific research - postgraduate education and training	es 3 3	36,927 325	5,080	42,007 325	35,107 924
TOTAL INCOMING RESOURCES		37,689	5,080	42,769	36,350
RESOURCES EXPENDED Costs of generating funds -costs of goods sold and other costs	5	17	<del></del>	17	48
Charitable activities	6a	28,124	7,088	35,212	34,601
Governance costs	7	198	-	198	217
TOTAL RESOURCES EXPENDED		28,339	7,088	35,427	34,866
NET INCOMING RESOURCES TRANSFERS BETWEEN FUNDS	17	9,350 2,402	(2,008) (2,402)	7,342	1,484
NET MOVEMENT IN FUNDS IN YEAR		11,752	(4,410)	7,342	1,484
RECONCILIATION OF FUNDS					
Fund balances at 1 April 2012		7,850	49,082	56,932	55,448
Fund balances at 31 March 2013		19,602	44,672	64,274	56,932

No separate Statement of Total Recognised Gains and Losses has been presented as all such gains and losses have been dealt with in the Statement of Financial Activities

All incoming resources and resources expended derive from continuing activities

**BALANCE SHEETS** 

31 March 2013

Company Registration Number 2393175

	Notes	Group 2013	Charity 2013	Group 2012	Charity 2012 £'000
FIXED ASSETS		£,000	£,000	£,000	£ 000
Tangible assets	10	47,614	47,558	50,444	50,358
Investments	11 _	105	113	132	140
		47,719	47,671	50,576	50,498
CURRENT ASSETS Stock		410	405	403	393
Debtors	12	10,360	10,553	9,983	9,856
Cash at bank and in hand		21,784	21,766	16,653	16,653
	_	32,554	32,724	27,039	26,902
CREDITORS Amounts falling due within one year	13	(16,023)	(15,951)	(20,540)	(20,238)
NET CURRENT ASSETS	-	16,531	16,773	6,499	6,664
TOTAL ASSETS LESS CURRENT LIABILITIES	-	64,250	64,444	57,075	57,162
CREDITORS Amounts falling due after one year	14	(170)	(170)	(230)	(230)
NET ASSETS	•	64,080	64,274	56,845	56,932
FUNDS	15	44.672	44.672	40 ስዩን	49,082
Restricted funds	17	44,672	44,672	49,082	47,002
General fund	17	19,408	19,602	7,763	7,850
TOTAL FUNDS		64,080	64,274	56,845	56,932

Approved by the Board and authorised for issue on

24/9/2013 and signed on its behalf by

Director

Dr GRAHAM BIRCH

### CONSOLIDATED CASH FLOW STATEMENT

for the year ended 31 March 2013

	Notes	2013 £'000	2012 £'000
NET CASH INFLOW FROM OPERATING ACTIVITIES	18	6,917	1,606
RETURN ON INVESTMENTS AND SERVICING OF FINANCE Interest received		168	32
CAPITAL EXPENDITURE Receipts from sales of tangible fixed assets Purchase of tangible fixed assets Capital grants received Capital grants expended		103 (1,877) 5,080 (2,760)	(4,878) 5,772 (1,884)
MANAGEMENT OF LIQUID RESOURCES Placement of fixed term deposits		(10,539)	(5,000)
FINANCING Repayment of loans		(2,500)	-
DECREASE IN CASH	19	(5,408)	(4,352)

The accompanying notes form part of these financial statements

#### **ACCOUNTING POLICIES**

The financial statements have been prepared under the historical cost convention as modified by the revaluation of investments The financial statements meet the requirements of the Companies Act 2006, the Statement of Recommended Practice - Accounting and Reporting by Charities (SORP 2005) issued in March 2005 and applicable accounting standards so far as these requirements are appropriate

#### GOING CONCERN

The Group has net current assets of £16,531k (2012 £6,499k) and the Charity £16,773k (2012 £6,664k)

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

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

#### 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

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

Assets in the course of construction are stated at cost and are not depreciated until they are ready for use

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

#### 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

#### ACCOUNTING POLICIES

#### **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.

#### **INCOMING RESOURCES**

All incoming resources except grants are 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

lncome from grants, including capital grants, is included within incoming resources 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 incoming resources 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 incoming resources of restricted funds when receivable

Rothamsted Manor Limited (RML) generates income from catering and hospitality. The income and expenditure associated with this activity are included within activities for generating funds and the costs thereof

#### RESOURCES EXPENDED

Liabilities are recognised as resources expended as soon as there is a legal or constructive obligation committing the group to the expenditure All resources expended are 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 generating 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

#### **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, and the contingent liability of the owner of the buildings on which such expenditure has been applied, to the provider of such capital grants, is not treated as a donation to the Charity as it is not possible to place a certain 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 costs represent contributions payable by the Charity 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 Charity in the year

#### RELATED PARTY TRANSACTIONS

The group has taken advantage of the exemption under FRS8 not to disclose transactions entered into between two or more members of a wholly owned group However, due to its revised governance and membership structure, explained on pages 4 and 5 of the Report of the Trustees, 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

### NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

1	ACTIVITIES FOR GENERATING FUNDS GROUP	Unrestricted 2013 £'000	Restricted 2013 £'000	Total 2013 £'000	Total 2012 £'000
	Consultancy Other Sale of goods (RML) – trading	21 167 510	- - -	21 167 510	7 280 464
		698	-	698	751
	CHARITY	Unrestricted 2013 £'000	Restricted 2013 £'000	Total 2013 £'000	Total 2012 £'000
	Consultancy Other	21 167	-	21 167	7 280
		188		188	287
2	INVESTMENT INCOME	Unrestricted 2013	Restricted 2013	Total 2013	Total 2012
	GROUP	£,000	£,000	£,000	£'000
	Interest receivable	249	-	249	32
	CHARITY	Unrestricted 2013 £'000	Restricted 2013 £'000	Total 2013 £'000	Total 2012 £'000
	Interest receivable	249 ————	-	249	32

### NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

#### 3 CHARITABLE ACTIVITIES

Total incoming resources from charitable activities are analysed as follows

GROUP AND CHARITY	Unrestricted 2013 £'000	Restricted 2013 £'000	Total 2013 £'000	Total 2012 £'000
BBSRC ISPG	13,390	_	13,390	13,209
Competitive Project Grant	6,105	-	6,105	5,075
Minor Works	-	420	420	917
Capital Equipment	-	2,307	2,307	4,055
Site Redevelopment funding	-	2,353	2,353	-
Loan repayment funding	2,500	-	2,500	-
Energy support	1,762	-	1,762	-
Maintenance funding	2,654	•	2,654	-
Sustainability funding	654	-	654	-
Foregone savings funding	1,200	-	1,200	-
Redundancy funding	1,264	-	1,264	900
Insurance funding	-	-	-	800 750
International Development funding		<u>-</u>		—— <del>.</del> ——
TOTAL BBSRC	29,529	5,080	34,609	24,806
DEFRA Commissions	989	-	989	1,748
DEFRA Competitive	1,498	-	1,498	2,242
Other Government Departments,				
Public Sector (see below)	955	-	955	1,618
European Union	563	-	563	632
Industry	1,852	-	1,852	2,380
Trusts, Foundations, Charities	18	-	18	217
Income from Farm Operations	593	-	593	651
Postgraduate Education and Training	325	-	325	924
Miscellaneous income	930		930	813
TOTAL INCOMING RESOURCES	37,252	5,080	42,332	36,031
Other Government departments/Public Sector				
Foreign and Commonwealth Office	153	-	153	139
Other Research Councils	422	-	422	467
Other	380		380	1,012
	955	-	955	1,618

### NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

4	INCOMING RESOURCES				
	GROUP Analysis of incoming resources by geographical region	Unrestricted 2013 £'000	Restricted 2013 £'000	Total 2013 £'000	Total 2012 £'000
	United Kingdom	37,430	5,080	42,510	35,735
	Europe EU	690	-	690	632
	Other North America Other	9 70 -	- -	9 70 -	137 129 181
		38,199	5,080	43,279	36,814
	CHARITY	Unrestricted	Restricted	Total	Total
	Analysis of incoming resources by geographical region	2013 £'000	2013 £'000	2013 £'000	2012 £'000
	United Kingdom	36,920	5,080	42,000	35,271
	Europe EU	690	-	690	632
	Other North America Other	9 70 -	- -	9 70 -	137 129 181
		37,689	5,080	42,769	36,350
5	COSTS OF GENERATING FUNDS	Unrestricted 2013	Restricted 2013	Total 2013	Total 2012
	GROUP	£,000	£,000	£'000	£,000
	Consultancy Other	17	-	17	39 9
	Cost of goods sold trading (RML)	617		617	548 
		634	-	634	596
	CHARITY	Unrestricted	Restricted	Total	Total
		2013 £'000	2013 £'000	2013 £'000	2012 £'000
	Consultancy Other	17 -	- -	17 -	39 9 ————
		17	-	17	48

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

6a)	CHARITABLE ACTIVITIES GROUP AND CHARITY	Direct costs £'000	Other costs £'000	Support costs £'000	Total 2013 £'000	Total 2012 £'000
	Activity					
	Scientific research	21,477	8,916	3,746	34,139	33,710
Postgraduate education and training	885	-	188	1,073	891	
		22,362	8,916	3,934	35,212	34,601

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)

#### 6b) SUPPORT COSTS

The Group and Charity allocate support costs as shown in the table below and then further apportions these between the charitable activities undertaken (see note 6a) Support costs are allocated on a basis consistent with the use of the resources

GROUP	Basıs	Scientific research £'000	Education and training £'000	Governance £'000	Total 2013 £'000	Total 2012 £'000
Commercial and					5.57	1 247
Finance	Staff time	502	32	23	557	1,747
Human Resources	Staff time	449	23	-	472	296
Computing Service	Usage	837	8	-	845	871
Management Other	Staff time	344	44	57	445	387
administration	Usage	1,614	81	<u>-</u>	1,695	2,380
		3,746	188	80	4,014	5,681

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

### 6b) SUPPORT COSTS (continued)

CHARITY		Scientific research	and traini	ng Goverr		Total 2013	Total 2012
	Basis	£'000	£'00	)0 £	000	£'000	£,000
Commercial and							
<del>-</del>	Staff time	502	3	32	23	557	1,747
		449			-	472	296
Computing Service	Usage	837		8	-	845	871
Institute							
Management Other	Staff time	344	4	14	57	445	387
administration	Usage	1,614		31		1,695	2,380
		3,746	18	88	80	4,014	5,681
GOVERNANCE CO	OSTS	Unre					Total 2012
GROUP AND CHA	RITY		£'000	£'000			£'000
GROOT THE CHIL	• • • • • • • • • • • • • • • • • • • •						_
Audit fee			102	-			58
Trustee expenses				-		-	4
Support costs				-			80
Professional advice	to Trustees		13	-		13	75 
			198	_ <del></del>		198	217
	Commercial and Finance Human Resources Computing Service Institute Management Other administration  GOVERNANCE CO GROUP AND CHA Audit fee Trustee expenses Support costs	Commercial and Finance Staff time Human Resources Staff time Computing Service Usage Institute Management Staff time Other administration Usage  GOVERNANCE COSTS  GROUP AND CHARITY  Audit fee Trustee expenses	Commercial and Finance Staff time 502 Human Resources Staff time 449 Computing Service Usage 837 Institute Management Staff time 344 Other administration Usage 1,614  GOVERNANCE COSTS Unre  GROUP AND CHARITY  Audit fee Trustee expenses Support costs	Commercial and Finance Staff time 502 Human Resources Staff time 449 Computing Service Usage 837 Institute Management Staff time 344 Other administration Usage 1,614  GOVERNANCE COSTS  GROUP AND CHARITY  Audit fee 102 Trustee expenses Support costs Professional advice to Trustees  Tesearch and training and training file for the following for the following for the following for the following following for the following foll	Rasis freearch and training from from the first state of the first sta	Basis   Fesearch   and training   Governance   £'000   £'000	Research   And training   Governance   £'000

<sup>9</sup> Directors claimed reimbursement of travel expenses, the amount of which was £3,178 (2012 9 Directors claimed reimbursement of £3,705)

NOTES TO THE FINANCIAL STATEMENTS

8	NET INCOMING RESOURCES IS STATED AFTER CHARGING/ (CREDITING) THE FOLLOWING	Group 2013 £'000	Charity 2013 £'000	Group 2012 £'000	Charity 2012 £'000
	Interest receivable	(249)	(249)	(32)	(32)
	Auditor's remuneration – audit services – parent	56	56	58	58
	Auditor's remuneration – audit services – underprovision in previous year	46	46	40	40
	Auditor's remuneration – audit services	4	_	3	_
	<ul><li>subsidiary</li><li>Auditor's remuneration – taxation</li></ul>	72	72	164	164
	advisory Auditor's remuneration – taxation	2	2	2	2
	compliance Hire of plant and machinery	2	2	18	18
	Depreciation	4,674	4,659	4,478	4,474
	Operating lease rentals  Land and buildings	17	17	17	17
9	STAFF COSTS AND NUMBERS GROUP	Unrestricted 2013	Restricted 2013 £'000	Total 2013 £'000	Total 2012 £'000
		45.000		12 800	14,295
	Salaries and wages	12,800	-	12,800 1,058	1,007
	Social security costs	1,058 2,947	_	2,947	3,183
	Other pension costs Redundancy costs	593	<u>-</u>	593	-
		17,398	•	17,398	18,485
		Limmostmatod	Restricted	Total	Total
	CHARITY	Unrestricted 2013	2013	2013	2012
		£,000	£,000	£,000	£,000
	Salaries and wages	12,487	-	12,487	14,029
	Social security costs	1,039	-	1,039	997
	Other pension costs	2,884	-	2,884	3,092
	Redundancy costs	572	<u> </u>	572	
		16,982	-	16,982	18,118

#### NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

#### 9 STAFF COSTS AND NUMBERS (continued)

The average number of persons employed by category was

	Group Total 2013 No	Charity Total 2013 No	Group Total 2012 No	Charity Total 2012 No
Science staff Technical and administrative staff	225 165	225 152	269 170	269 161
	390	377	439	430
The average number of persons (full time equivalent) employed by category was				
Science staff Technical and administrative staff	212 146	212 137	248 157	248 149
	358	349	405	397
The number of staff with emoluments greater than £60,000, all of whom were accruing pension benefits, was				
£60,000 - £69,999 £70,000 - £79,999	13 2 4	13 2 4	12	12 4
£80,000 - £89,999 £90,000 - £99,999 £140,000 - £149,999 £150,000 - £159,999	- - 1	- - 1	1 1	1 1 -
	20	20	18	18

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.

Employees of the Council 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

### NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

#### 9 STAFF COSTS AND NUMBERS (continued)

Research Councils' Joint Superannuation Services and the schemes' finances are administered by the BBSRC. Under the definitions set out in Financial Reporting Standard 17 (Retirement Benefits) 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 17 and has accounted for its contributions to the scheme as if it were a defined contribution scheme. For 2012/13, Rothamsted Research Limited paid £2,894k (2011/12 £3,183k) in employer's contributions into the scheme. A separate Research Councils' Pensions Schemes Account was published for the year ended 31 March 2011 and contains the further disclosure of information under the relevant accounting standard. The combined schemes accounts as at 31 March 2013 have not yet been published, the total net liability as at 31 March 2012 was £3,180m (2011 £3,022m). The charity expects to pay £2,840 k in respect of employer's contribution in 2013/14.

Staff employed by Rothamsted Research are members of a defined contribution scheme, as noted on page 3 Contributions made in 2012/13 amounted to £46k (2012 £Nil), and there were no accrued or prepaid contributions at 31 March 2013 (2012 £Nil)

In the year the Charity paid £7 8k in premiums for Professional Indemnity Insurance (2012 £5 1k)

Trustees receive £Nil remuneration (2012 £Nil)

10	TANGIBLE FIXED ASSETS GROUP	Buildings £'000	Plant and machinery £'000	Fixtures, fittings and vehicles £'000	Total £'000
	Cost As at 1 April 2012 Additions Disposals	62,462	16,022 1,853 (130)	1,733 24 (74)	80,217 1,877 (204)
	As at 31 March 2013	62,462	17,745	1,683	81,890
	Accumulated depreciation As at 1 April 2012 Provision for year Disposals	19,005 2,329	9,378 2,150 (118)	1,390 195 (53)	29,773 4,674 (171)
	As at 31 March 2013	21,334	11,410	1,532	34,276
	Net book value As at 31 March 2013	41,128	6,335	151	47,614
	As at 31 March 2012	43,457	6,644	343	50,444

#### NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

10	TANGIBLE ASSETS (continued) CHARITY	Buildings £'000	Plant and machinery £'000	Fixtures, fittings and vehicles £'000	Total £'000
	Cost As at 1 April 2012 Additions Disposals	62,462 - -	16,022 1,853 (130)	1,641 18 (53)	80,125 1,871 (183)
	As at 31 March 2013	62,462	17,745	1,606	81,813
	Accumulated depreciation As at 1 April 2012 Provision for year Disposals	19,005 2,329	9,378 2,150 (118)	1,384 180 (53)	29,767 4,659 (171)
	As at 31 March 2013	21,334	11,410	1,511	34,255
	Net book value As at 31 March 2013	41,128	6,335	95	47,558
	As at 31 March 2012	43,457	6,644	257	50,358

The replacement cost or valuation of land owned by The Lawes Agricultural Trust and occupied by the Charity at 31 March 2013 was £11,595,000 (2012 £11,595,000). This land is occupied on the basis of a bare licence between Lawes Agricultural Trust and the Charity, and accordingly is not included in fixed assets. In the opinion of the Directors, £11,595,000 represents a realistic valuation as at 31 March 2013. This value has been made available by the BBSRC from the valuations prepared by Powis Hughes, Chartered Surveyors in October 2003.

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.

### NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

11

INVESTMENTS	Unlisted
GROUP	investments £'000
Valuation	
As at 31 March 2012 and 31 March 2013	263
Impairment	
As at 31 March 2012	131
Impairment during the year	27
As at 31 March 2013	158
Net Book Value	
As at 31 March 2012	132
As at 31 March 2013	105

The unlisted investments relate to the following holdings

The Company owns 2,833 £0 01 ordinary shares, a 17 7% shareholding, and 175,529 £1 preference shares in VSN International Limited The value of the preference shares was impaired by £27k during 2012/13, reflecting the valuation of the post year-end buyback of those shares

The Company also owns 103,675 £0 001 ordinary shares, a 0 9% shareholding in Insense Limited and 130,200 £0 001 shares in Inscentinel Limited, a 1 6% shareholding Investments are held at the Directors' estimate of fair value. The valuation reflects the current market valuation for comparable quoted companies in the niche software and data analysis sectors, and reflects the anticipated discount appropriate for an unquoted company. The valuation was undertaken by management

CHARITY	Unlisted investments £'000	Shares in group undertakings £'000	Total £'000
Cost / valuation As at 31 March 2012 and 31 March 2013	263	45	308
Impairment As at 31 March 2012 Impairment	131 27	37	168 27
As at 31 March 2013	158	37	195
Net Book Value As at 31 March 2012	132	8	140
As at 31 March 2013	105	8	113

#### NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

#### 11 INVESTMENTS (Continued)

Shares in subsidiary undertakings

The Charity held the following shares in subsidiary undertakings at 31 March 2013

	Shares held Class	%	Capital and Reserves £	Country of Incorporation
Rothamsted Research Centres Limited (formerly DESSAC International Limited)	Ordinary	100	2	England & Wales
Lawes Agricultural Trust Holdings Limited	Ordinary	100	(77,251)	England & Wales
Rothamsted International Consulting Limited	Ordinary	100	2	England & Wales
Genetic Technologies Limited (dormant)*	Ordinary	100	2	England & Wales
Rothamsted Manor Limited	Ordinary	100	(186,095)	England & Wales
Rothamsted Experimental Station Limited (dormant)*	Ordinary	100	1	England & Wales

<sup>\*</sup> held indirectly via Lawes Agricultural Trust Holdings Limited

The results of Rothamsted Manor Limited, for the year ended 31 March 2013, which are included in the consolidated financial statements, are set out below

£'000

Turnover Cost of sales Gift aid to Rothamsted Research	510 (617)
Retained loss for the year Net liabilities at 1 April 2012	(107) (79)
Net liabilities at 31 March 2013	(186)

Rothamsted Manor Limited's principal activity is the operation of a restaurant and conference centre as well as 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.

NOTES TO THE FINANCIAL STATEMENTS

12	DEBTORS	Group 2013	Charity 2013	Group 2012	Charity 2012
	Dug within and was	£,000	£'000	£'000	£'000
	Due within one year Trade debtors	3,876	3,876	2,333	2,273
	Other debtors	220	53	911	806
	Prepayments and accrued income	6,247	6,247	6,713	6,713
	Due from subsidiary undertaking	-	360	· -	38
	_	10,343	10,536	9,957	9,830
	Other debtors – due after one year	17	17		
	_	10,360	10,553	9,983	9,856
	=		<b>E</b>		<del></del>
13	CREDITORS Amounts falling due	Group	Charity	Group	Charity
15	within one year	2013	2013	2012	2012
		£,000	£'000	£'000	£'000
	Loans from the BBSRC	_	•	2,500	2,500
	Trade creditors	265	177	658	482
	Other taxes and social security costs	46	16	311	311
	Other creditors	85	85	628	628
	Accruals	1,913	1,959	4,047	3,921
	Deferred income	13,714	13,714	12,396	12,396
		16,023	15,951	20,540	20,238
	Deferred income represents income	Group	Charity	Group	Charity
	received in advance of expenditure. The	2013	2013	2012	2012
	movement can be analysed as follows	£,000	£'000	£,000	£'000
	Opening balance	12,396	12,396	8,638	8,638
	Amounts deferred during the year	13,714	13,714	12,396	12,396
	Release of amounts previously deferred	(12,396)	(12,396)	(8,638)	(8,638)
		13,714	13,714	12,396	12,396

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

14	CREDITORS Amounts falling due after more than one year	Group 2013 £'000	Charity 2013 £'000	Group 2012 £'000	Charity 2012 £'000
	Loans from the BBSRC	125	125	125	125
	Redundancy accruals, relating to annual pension contributions for former staff	45	45	105	105
		170	170	230	230
		Group 2013 £'000	Charity 2013 £'000	Group 2012 £'000	Charity 2012 £'000
	Repayable within 1 – 2 years	38 132	38 132	60 170	60 170
	Repayable within 2 – 5 years				

#### 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. Any loss which might occur as a result of the policy would be discussed with the BBSRC and H M. Treasury with whom any decision to defray such loss would rest

#### 16 COMMITMENTS

As at 31 March 2013, the Charity had no financial commitments (2012 £Nil)

There were also annual commitments under non-cancellable operating leases as follows -

	Group	Charity	Group	Charity
	2013	2013	2012	2012
	£'000	£'000	£'000	£'000
Land and buildings expiring in the second to fifth year	17	17	17	17

### NOTES TO THE FINANCIAL STATEMENTS

17	FUNDS	Unrestricted £'000	Restricted £'000	Total £'000
	GROUP	2 000	2 000	2 000
	Funds as at 31 March 2013	19,408	44,672	64,080
	Funds balances are represented by			
	Fixed assets	7,805	39,914	47,719
	Current assets	27,796	4,758	32,554
	Current liabilities	(16,023)	-	(16,023)
	Long-term liabilities	(170)		(170)
	Total net assets	19,408	44,672	64,080
	CHARITY	Unrestricted	Restricted	Total
	CHARITI	£'000	£'000	£,000
	Funds as at 31 March 2013	19,602	44,672	64,274
	Funds balances are represented by	<del></del> -		
	Fixed assets	7,757	39,914	47,671
	Current assets	27,966	4,758	32,724
	Current liabilities	(15,951)	-	(15,951)
	Long-term liabilities	(170) ————		(170)
	Total net assets	19,602	44,672	64,274
			2013	2012
	GROUP		£,000	£,000
	GENERAL FUND			
	Balance brought forward		7,763	5,119
	Net incoming resources		9,243	2,644
	Transfer		2,402	<u>-</u>
	Balance carried forward		19,408	7,763
	CHADITY		2013	2012
	CHARITY		£'000	£'000
	GENERAL FUND			
	Balance brought forward		7,850	5,122
	Net incoming resources		9,350	2,728
	Transfer		2,402	<u>.</u>
	Balance carried forward		19,602	7,850
	Balance carried forward		19,602	7,8

#### NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

17	FUNDS (continued)	2013	2012
	RESTRICTED FUNDS	£'000	£,000
	GROUP AND CHARITY		
	Capital Fund		
	Balance brought forward	49,082	48,526
	Grants received	5,080	5,772
	Expenditure of capital grants included in resources		
	expended	(2,760)	(1,884)
	Depreciation charge for the year	(4,328)	(3,332)
	Fixed asset adjustment - transfer	(2,402)	
	Balance carried forward	44,672	49,082

This fund principally represents funding received, largely from the Biotechnology and Biological Sciences Research Council, for the past and future acquisition of tangible fixed assets. These assets are built on land that is not owned by Rothamsted Research Limited

During the period, the Company implemented a fixed asset system. This has shown that a greater quantity of assets than had previously been believed should be defined as "unrestricted", and as such a transfer between restricted and unrestricted funds has been made to better reflect these values.

18	RECONCILIATION OF THE GROUP NET INCOMING RESOURCES FOR THE YEAR TO NET CASH INFLOW FROM OPERATING ACTIVITIES	2013 £'000	£'000
	Net incoming resources Interest receivable Depreciation charges (Profit)/loss on disposal of fixed assets Impairment of fixed asset investments Provision for VAT liability Capital grants (net) (Increase) in stocks (Increase) in debtors (Decrease)/increase in creditors	7,235 (249) 4,674 (70) 27 - (2,320) (7) (296) (2,077)	1,400 (32) 4,478 87 (1,570) (3,888) (130) (4,647) 5,908
	Net cash inflow from operating activities	6,917	1,606

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

19	ANALYSIS OF CHANGES IN NET FUNDS	At 31 March 2012 £'000	Cash flow £'000	At 31 March 2013 £'000
	Bank balances and cash Short term deposits BBSRC loans due within one year BBSRC loans due after one year	11,653 5,000 (2,500) (125)	(5,408) 10,539 2,500 - - 7,631	6,245 15,539 - (125) 
20	RECONCILIATION OF NET CASH FLOW TO MOVEMENT IN NET FUNDS  Increase in fixed term deposits Decrease in cash in the period Repayment of BBSRC loan due within one year		2013 £'000 10,539 (5,408) 2,500	2012 £'000 5,000 (4,352)
	Change in net funds Net funds at 31 March 2012		7,631 14,028	648 13,380
	Net funds as at 31 March 2013 (note 19)		21,659	14,028

#### 21 RELATED PARTY TRANSACTIONS

BBSRC funds scientific research and equipment purchases for the Institute Funding for 2012/13 was £34,609k (2011/12 - £24,806k) and the breakdown of this is shown in note 3. At the 2012/13 year-end BBSRC had £2,156k (2012 - £93k) included within trade debtors of the Institute, and £0k (2012 - £452k) included within trade creditors. Note 9 of the financial statements explains the staffing arrangements between BBSRC and the Institute. The loan shown in note 13 is interest-free and unsecured but has now been repaid in full. The loan shown in note 14 is also interest-free and unsecured.

LAT also funds scientific research through grants to the Institute, and in the year 2012/13 the value of this to the Institute was £230k (2012 - £146k). The Institute's subsidiary, Rothamsted Manor Limited, collects rents and pays expenses on a number of LAT properties, which are then transferred to LAT. In the year 2011/12, RML paid out £228k (2012 - £193k) in costs and collected £198k (2012 - £174k) in income on behalf of LAT. At year end, the charity was owed £84k (2012 - £47k) by LAT, and RML owed LAT £78k (2012 - £37k). Details of the agreements regarding the Institute's use of buildings owned by LAT are set out in note 10.

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2013

#### 22 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 2013 (2012 £Nil)

INCOME AND EXPENDITURE ACCOUNTS

	Group 2013 £'000	Charity 2013 £'000	Group 2012 £'000	Charity 2012 £'000
Gross income of continuing operations	38,199	37,689	31,842	31,378
Total expenditure of continuing operations	(28,956)	(28,339)	(30,198)	(29,650)
Net income for the year	9,243	9,350	1,644	1,728
RECONCILIATION OF NET INCOME TO NET INCOMING RESOURCES FOR THE YEAR				. :
Net income for the year	9,243	9,350	1,644	1,728
Capital grants received	5,080	5,080	4,972	4,972
Expenditure of capital grants included in resources expended	(2,760)	(2,760)	(1,884)	(1,884)
Release of deferred capital grant in line with depreciation	(4,328)	(4,328)	(3,332)	(3,332)
Net incoming resources for the year	7,235	7,342	1,400	1,484