

Rothamsted Research Limited

ANNUAL REPORT AND FINANCIAL STATEMENTS

for the year ended

31 March 2012

THURSDAY



A10MVOY8

A29

27/12/2012

#115

COMPANIES HOUSE

Company Registration No 2393175

Charity No 802038

Rothamsted Research Limited

CONTENTS PAGE

Legal and Administrative Information	2
Report of the Trustees	3 - 23
Trustees' Responsibilities	24
Independent Auditor's Report	25
Consolidated Statement of Financial Activities	26
Charity Statement of Financial Activities	27
Balance Sheets	28
Consolidated Cash Flow Statement	29
Accounting Policies	30 - 32
Notes to the Financial Statements	33 - 50
Income and Expenditure Accounts	51

Rothamsted Research Limited

LEGAL AND ADMINISTRATIVE 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

* - member of Audit Committee
+ - member of Strategic Site Development Committee
> - member of Finance Dual Assurance Meeting
\$ - Member of Governance Sub-Group (closed October 2011)

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

Rothamsted Research Limited

REPORT OF THE TRUSTEES

The Directors submit their Annual Report together with the audited Financial Statements for the year ended 31 March 2012. The Annual Report is to be read in conjunction with the Company's Research Review, which can be obtained from the Company Secretary or at <http://www.rothamsted.bbsrc.ac.uk/>

STRUCTURE, GOVERNANCE AND MANAGEMENT

Directors and Officer

The Directors, who are also the Trustees, the Institute Director and Officer of the Company, who served throughout the year except where indicated, 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 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).

Rothamsted Research Limited

REPORT OF THE TRUSTEES

Trustee Induction and Training

Most of the Trustee-Directors have attended a customised workshop facilitated by a barrister from Anthony Collins LLP and by a partner from Baker Tilly Tax and Accounting Limited. All have been offered further training opportunities with good quality national providers. 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 have been no new appointments during 2011/12.

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 3rd 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.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

Organisation (continued)

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 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 and, achieving this through an arm's length stance, which does not seek to unduly influence the strategic direction of the Institute. To date, the Board has established two sub-committees for specific purposes, namely 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.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

Disabled Persons (continued)

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.

Connected Charity and Companies

The freehold interest in the land and buildings at the Company's two main operating sites 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.

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. 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 a membership-based organisation (approximately 700 members) with a significant history of interaction with the elite of technologically advanced farming businesses going back to the early part of the 20th 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 2011/12 profit before tax was £220k (2010/11 £164k) on an improved turnover of £1.28M (2010/11 £1.11M) achieved especially as a result of enhanced growth in USA. See also Note 11 to the financial statements.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

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 these systems would transfer back to an in-house provision with effect from 1 April 2012 (see also Future Developments on page 21), which as a result represents a different but significant risk. Further risk lies within the change in liabilities to rest ultimately with the Institute (staff, no longer BBSRC as a banker of last resort) that will accompany a change in governance. The central provision by the BBSRC of IS/IT services to its institutes has ceased with this activity also transferring in-house, the setting up of new skills, services and interfaces (both technical and commercial) has been another risk.

The VAT retrospective assessment from HMRC, which has been a major risk for a number of years, has been resolved at a more favourable level than had previously been feared along with the support of the BBSRC. The Company has established review processes to monitor and, wherever possible, mitigate such matters.

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 Institute Executive Committee 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.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

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 the improvement of yield and quality of crops produced for a variety of purposes. 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 nurturing and global food security is a significant political issue.

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. In addition, the unique combination of skills and experience across Rothamsted Research allows an increased understanding of sustainability in the agricultural context.

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)

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

Rothamsted Research Limited

REPORT OF THE TRUSTEES

OBJECTIVES AND ACTIVITIES (continued)

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.

ACHIEVEMENTS AND PERFORMANCE - Research Activities and benefits

Throughout 2011/12 the Institute has been continuing to refocus its research and describing a new strategy that has been widely disseminated and discussed during 2011. This is based around the delivery of the objectives that were described as “Institute Strategic Programme Grants” which are the larger part of BBSRC’s grant to Rothamsted Research that were formally approved in April 2011 and are 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 in 20 years.

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.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

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 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. We noted an increased activity in this area, which is likely to be related to the Institute Director's personal commitment to impact and commercialisation of all categories. The following are notable during 2011/12:

Intellectual Property and similar activities in 2011/12 are worthy of note:

- 1 To date we manage 19 patent families, 5 plant varieties and 2 trademark families. Of the 19 patent families 8 have been licensed or fully/partly assigned.
- 2 Worldwide we manage 151 patents and patent applications, 5 plant variety applications and 6 trademarks worldwide.
- 3 We made 28 patent applications in 2011/12. This figure includes both new applications plus patents that have been nationalised.
- 4 The number of patents granted worldwide in 2011/12 was 7.
- 5 In total we have 64 granted patents. Given that most patents are not granted until 3-10 years after filing and most of our filings have been in the last five years this is on target. Also any year when we get a European grant this will dwarf other years.
- 6 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 1 willow variety was filed (ROTH CHEVIOT). This supplements the two others from last year.
- 8 39 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.
- 9 2 successful applications were made for BBSRC Pathfinder Follow on Fund applications (biodiesel waste product applied to soil and low viscosity wheat). 1 successful application was made for a BBSRC Follow on Fund application (work beginning during 2012/13).
- 10 1 unsuccessful application for funding from the Intellectual Property Office for funding for a FastForward project. This was a project involving 2 UK SMEs (one from England and one from Northern Ireland) and InCrops.
- 11 We have undertaken consultancy activities for the UK Intellectual Property Office in Brazil, which showcases how our knowledge on licensing and patent activities is recognised at the professional level. This involved researching the patentability and marketability of 2 Brazilian technologies in addition to delivering talks on Licensing Intellectual Property and Rothamsted Research.
- 12 We are now renewing the EMBRAPA LABEX agreement having already renewed our MoU with EMBRAPA for another 5 years.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

ACHIEVEMENTS AND PERFORMANCE: Knowledge Exchange through Commercialisation (continued)

- 13 Following on from a MBA project a Chilean party has shown interest in getting involved with commercialising our omega 3 technology there in the aquaculture industry
- 14 Finally, in 2011/12 we successfully defended our Synergist patent (<http://bit.ly/RR-148>) at the European Patent Office after it was opposed by Syngenta. This was not a minor achievement

ACHIEVEMENTS AND PERFORMANCE - Papers published in high impact journals during 2011 (calendar year)

A measure of its success in delivering scientific advances from the work at Rothamsted Research can be drawn from the publications in the scientific literature

The Institute published 307 papers in refereed journals in 2011 (346 in 2010, 284 in 2009, 359 in 2008) 268 papers had Harpenden-based authors and 43 came from North Wyke. There were 4 papers that had authors from both the Harpenden and North Wyke sites

65 papers were published in journals with an impact factor of 5 or more (50 in 2010, 39 in 2009, 50 in 2008) and 12 in high impact journals such as PNAS, Science and Plant Cell (16 in 2010, 11 in 2009, 19 in 2008). The range (excluding journals with no impact factors) was 36.3 (Nature) to 0.3 (Zemdirbyste). Both the median (2.8 in 2011, 2.7 in 2010, 2.5 in 2009, 2.4 in 2008) and mean (3.6 in 2011, 3.5 in 2010, 3.2 in 2009, 3.1 in 2008) impact factors (including journals with no impact factor) continue to show modest improvement

David Bohan and David Brooks' paper on National-scale regulation of the weed seedbank by carabid predators was featured as the Editor's Choice in Journal of Applied Ecology for July 2011, and Jonathon Storkey, Stephen Moss and John Cussans were awarded a WSSA 2011 Outstanding Paper Award for their 2010 paper on Using assembly theory to explain changes in a weed flora

Using Web of Science for the number of times cited for individual papers published in 2011, this section records those with 10 or more citations to date. Clearly papers published in January are more likely to have gathered citations than those published in December, some 2011 papers were in fact available and citable on the web in 2010. There are currently 9 papers for 2011 with 10 or more citations (compared with 20 for 2010 at 11.7 2011, 13 for 2009 at 10.8 2010). Six of the 9 'highly cited' papers were published in journals with impact factors of less than 5

2011 papers with 10 or more citations to date

Parry, M. A. J., Reynolds, M., Salvucci, M. E., Raines, C., Andralojc, P. J., Zhu, X-G., Price, G. D., Condon, A. G. & Furbank, R. T. (2011) Raising yield potential of wheat II. Increasing photosynthetic capacity and efficiency. *Journal of Experimental Botany* **62**, 453-467. <http://dx.doi.org/10.1093/jxb/erq304>
Times cited: 20 Impact factor: 5.35

Powlson, D. S., Whitmore, A. P. & Goulding, K. W. T. (2011) Soil carbon sequestration to mitigate climate change: a critical re-examination to identify the true and the false. *European Journal of Soil Science* **62**, 42-55. <http://dx.doi.org/10.1111/j.1365-2389.2010.01342.x>
Times cited: 20 Impact factor: 2.34

Rothamsted Research Limited

REPORT OF THE TRUSTEES

ACHIEVEMENTS AND PERFORMANCE - Papers published in high impact journals during 2011 (calendar year) – (continued)

The Brassica rapa Genome Project Sequencing Consortium, including **King, G. J.** (2011) The genome of the mesopolyploid crop species *Brassica rapa* *Nature Genetics* **43**, 1035-1039
<http://dx.doi.org/10.1038/ng.919>

Times cited 16 **Impact factor** 35.53

Goodwin, S. B., Ben M'Barek, S., Dhillion, B., Wittenberg, A. H. J., Crane, C. F., Hane, J. K., Foster, A. J., Van der Lee, T. A. J., Grimwood, J., Aerts, A., **Antoniw, J. F.**, Bailey, A., Bluhm, B., Bowler, J., Bristow, J., van der Burgt, A., Canto-Canche, B., Churchill, A. C. L., Conde-Ferraz, L., **Cools, H. J.**, Coutinho, P. M., Csukai, M., Dehal, P., De Wit, P., Donzelli, B., van de Geest, H. C., van Ham, R. C. H. J., **Hammond-Kosack, K. E.**, Rudd, J. J. & 28 other authors (2011) Finished genome of the fungal wheat pathogen *Mycosphaerella graminicola* reveals dispensome structure, chromosome plasticity and stealth pathogenesis *PLoS Genetics* **7**, e1002070 (17pp)
<http://dx.doi.org/10.1371/journal.pgen.1002070>

Times cited 14 **Impact factor** 8.69 Open access

Wang, J., Lydiate, D. J., Parkin, I. A. P., Falentin, C., Delourme, R., **Carion, P. W. C.** & **King, G. J.** (2011) Integration of linkage maps for the amphidiploid *Brassica napus* and comparative mapping with *Arabidopsis* and *Brassica rapa* *BMC Genomics* **12**, 101 (20pp)
<http://dx.doi.org/10.1186/1471-2164-12-101>

Times cited 13 **Impact factor** 4.07 Open access

Delmont, T. O., Robe, P., Cecillon, S., **Clark, I. M.**, Constancias, F., Simonet, P., **Hirsch, P. R.** & Vogel, T. M. (2011) Accessing the soil metagenome for studies of microbial diversity *Applied and Environmental Microbiology* **77**, 1315-1324
<http://dx.doi.org/10.1128/AEM.01526-10>

Times cited 12 **Impact factor** 3.83

Karatolos, N., Pauchet, Y., Wilkinson, P., Chauhan, R., **Denholm, I.**, **Gorman, K. J.**, Nelson, D. R., **Bass, C. G.**, French-Constant, R. H. & **Williamson, M. S.** (2011) Pyrosequencing the transcriptome of the greenhouse whitefly, *Trialeurodes vaporariorum* reveals multiple transcripts encoding insecticide targets and detoxifying enzymes *BMC Genomics* **12**, 56 (14pp) <http://dx.doi.org/10.1186/1471-2164-12-56>
Open access

Times cited 11 **Impact factor** 4.07

Brown, P. M. J., Frost, R., Doberski, J., Sparks, T., **Harrington, R.** & Roy, H. E. (2011) Decline in native ladybirds in response to the arrival of *Harmonia axyridis*: early evidence from England *Ecological Entomology* **36**, 231-240
<http://dx.doi.org/10.1111/j.1365-2311.2011.01264.x>

Times cited 10 **Impact factor** 1.99

Bruce, T. J. A. & **Pickett, J. A.** (2011) Perception of plant volatile blends by herbivorous insects - Finding the right mix *Phytochemistry* **72**, 1605-1611
<http://dx.doi.org/10.1016/j.phytochem.2011.04.011>

Times cited 10 **Impact factor** 3.35

Rothamsted Research Limited

REPORT OF THE TRUSTEES

4-year Retrospective

Using Web of Science (WoS) to perform simple analyses of papers published in the four years from 2008 (when North Wyke became part of Rothamsted Research) to 2011. There are 1243 journal papers and reviews with an Institute address included in WoS for the years 2008-2011. There are 1294 refereed papers on our own staff publications database for the same period, the difference being due to misspelling in the address data on WoS and the inclusion in the RRes database of some papers in journals not indexed in WoS.

There are currently 12,215 citations of these 1,243 papers (10,568 without self-citations), giving an average of 9.83 citations/paper. The Institute's H-index is 44 (accepting that the H-index was not intended to be applicable to institutions¹). The most highly cited paper is Rensing *et al* 2009.

Highly cited papers 2008-2011

Rensing, S. A., Lang, D., Zimmer, A. D., Terry, A., Salamov, A., Shapiro, H., Nishiyama, T., Perroud, P.-F., Lindquist, E. A., Kamisugi, Y., Tanahashi, T., Sakakibara, K., Fujita, T., Oishi, K., Shin, T., Kuroki, Y., Toyoda, A., Theodoulou, F. L., Verrier, P. J., Quatrano, R. S., Boore, J. L. & 50 other authors (2008) The *Physcomitrella* genome reveals evolutionary insights into the conquest of land by plants. *Science* **319**, 64-69. <http://dx.doi.org/10.1126/science.1150646>
Times cited 380

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 *Acyrtosiphon pisum*. *PLoS Biology* **8**, e1000313 (24pp). <http://dx.doi.org/10.1371/journal.pbio.1000313>
Times cited 149

Ma, J. F., Yamaji, N., Mitani, N., Xu, X.-Y., Su, Y.-H., McGrath, S. P. & Zhao, F. J. (2008) Transporters of arsenite in rice and their role in arsenic accumulation in rice grain. *Proceedings of the National Academy of Sciences, USA* **105**, 9931-9935. <http://dx.doi.org/10.1073/pnas.0802361105>
Times cited 136

Verrier, P. J., Bird, D., Burla, B., Dassa, E., Forestier, C., Geisler, M., Klein, M., Kolukisaoglu, U., Lee, Y., Martinoia, E., Murphy, A., Rea, P. A., Samuels, L., Shulz, B., Spalding, E. J., Yazaki, K. & Theodoulou, F. L. (2008) Plant ABC proteins - a unified nomenclature and updated inventory. *Trends in Plant Science* **13**, 151-159. <http://dx.doi.org/10.1016/j.tplants.2008.02.001>
Times cited 112

¹ 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.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

Journals with 10 or more papers 2008-2011

This section explores the journals (with their impact factor) in which Rothamsted Research scientists publish most frequently over the past 4 year period

Journal Title	No. of papers	2011 IF
EUROPEAN JOURNAL OF SOIL SCIENCE	37	2.34
JOURNAL OF EXPERIMENTAL BOTANY	32	5.36
SOIL BIOLOGY BIOCHEMISTRY	32	3.5
PLANT PHYSIOLOGY	30	6.53
JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY	29	2.82
NEW PHYTOLOGIST	24	6.64
PEST MANAGEMENT SCIENCE	24	2.25
PLANT PATHOLOGY	22	2.12
RAPID COMMUNICATIONS IN MASS SPECTROMETRY	19	2.79
GEODERMA	17	2.32
JOURNAL OF CEREAL SCIENCE	16	2.07
JOURNAL OF CHEMICAL ECOLOGY	16	2.66
PHYTOCHEMISTRY	16	3.35
ANNALS OF APPLIED BIOLOGY	15	2.18
CROP PROTECTION	14	1.4
ENVIRONMENTAL POLLUTION	13	3.75
BULLETIN OF ENTOMOLOGICAL RESEARCH	12	1.88
ENVIRONMENTAL SCIENCE TECHNOLOGY	12	5.23
APPLIED AND ENVIRONMENTAL MICROBIOLOGY	11	3.83
BIORESOURCE TECHNOLOGY	11	4.98
PHYTOPATHOLOGY	11	2.78
PLANT AND SOIL	11	2.73
PLANT CELL AND ENVIRONMENT	11	5.21
ATMOSPHERIC ENVIRONMENT	10	3.46
JOURNAL OF APPLIED ECOLOGY	10	5.04
PNAS	10	9.68
WEED RESEARCH	10	1.92

Rothamsted Research Limited

REPORT OF THE TRUSTEES

Authors with 20 or more papers 2008-2011

Authors	No of papers
SHEWRY PR	78
PICKETT JA	71
ZHAO FJ	68
MCGRATH SP	55
LARK RM	44
BOL R	42
BIRKETT MA	32
BROOKES PC	31
KING GJ	31
FIELD LM	30
NAPIER JA	27
REYNOLDS AM	27
CHADWICK DR	26
DENHOLM I	26
FITT BDL	26
HAMMOND-KOSACK KE	26
POWERS SJ	25
VAN DEN BOSCH F	25
WARD JL	25
WILLIAMSON MS	25
HEDDEN P	22
PARRY MAJ	22
WHITMORE AP	22
HOBBS PJ	21
MISSELBROOK TH	21
PELL JK	21
CLARK SJ	20
GOULDING KWT	20

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 2011/12 are shown in the table overleaf.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

ACHIEVEMENTS AND PERFORMANCE: Grants and contracts won (continued)

The ISPG and related BBSRC strategic grants are shown separately in a second table as they were granted in March 2012 and even though they will not be officially active until 2012/13. There is no doubt that the application and preparation process requires a hugely significant commitment across many members of staff throughout 2011/12. This is matched by the importance of such an award to the charity and also the commitment 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 (£)	Start date	Principal Investigator	Grant Body*
Enhancing Diversity in UK wheat through a public sector prebreeding programme	1,475,024	04/04/11	Peter Shewry	BBSRC
Innovative strategies to control and monitor sugar beet pests and diseases	1,159,329	01/04/11	Mark Stevens	BBRO
Genetic improvement of wheat to reduce the potential for acrylamide formation during processing LK	707,468	31/10/11	Nigel Halford	BBSRC/ TSB link
Field margins for biocontrol and biodiversity across crop rotations	617,884	02/01/12	Jason Chapman	DEFRA
Evaluating novel plant oilseeds enriched in omega-3 long chain polyunsaturated fatty acids to support sustainable development of aquaculture	453,204	01/03/12	Johnathan Napier	BBSRC
Manipulation of photosynthetic carbon metabolism in wheat to improve yield	302,568	01/08/11	Martin Parry	BBSRC
Collaborative Research Exploiting Prokaryotic proteins to improve plant photosynthetic efficiency (EPP)	262,855	01/04/11	Martin Parry	BBSRC
Integrated Disease Management of cereals through development of tolerance in wheat	239,958	01/10/11	Frank Van den Bosch	Defra
ATOPICA Environment Change and its effects on atopic diseases in Europe	227,962	01/10/11	Mikhail Semenov	EU
Establishment of a strategic training hub for the advancement of the UK agri-food industry	200,214	01/08/11	Lin Field	BBSRC via Univ Nott'm
Widescale enhancement of biodiversity a multi-functional approach (web phase 2)	172,094	01/04/11	Jerry Tallon	Defra
Molecular characterization and genotype development of transgenic Camelina accumulating high levels of omega-3 long chain polyunsaturated fatty acids	151,390	01/08/11	Johnathan Napier	BBSRC
Chemical Ecology and Integrated Management of the Banana Weevil, <i>Cosmopolites sordidus</i> , in Ghana	150,000	01/09/11	John Pickett	Royal Soc'y

* 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.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

BBSRC STRATEGIC GRANT TYPE	Total 2012/13 to 2016/17* £ millions
National Capabilities	
Insect Survey	1,554
NW Farm Platform	1 647
NW Farm Costs	4 563
PHI-Base	275
LTE and Archive and ERA	3,220
Total NC	11,259
ISPGs	
20/20 Wheat	14,695
WISP LOLA	1,435
Sub-total	16,130
Cropping Carbon	7,377
Designing Seeds	8,222
Sustainability	14,373
Total ISPG's	46,102
Institute Development Grant	6,393
KETC	5,130
Total for 5 years*	68,884
* Subject to mid-term Review and CSR	

Rothamsted Research is continuing to monitor and understand the benefits that the research work has brought to a broad cross section of the community and more details can be seen on the web site at <http://www.rothamsted.bbsrc.ac.uk/intopractice/Impact.html>. 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 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 propose to identify a suitable consultancy and place a contract that will provide some measures of this impact.

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 originated 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.

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 as many steps as 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.

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 widespread use is through patent protection and accept that such an approach can be a legitimate form of wide dissemination. Any financial benefit is captured by the charity in order to further pursue its Object.

The scientific strategy is highly outcome-focussed and aims of the Centres develop this benefit in greater detail and can be seen at <http://www.rothamsted.ac.uk>

In drafting the above statements, the Trustees have complied with the duty in section 17 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charity Commission.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

FINANCIAL REVIEW

The core grant - originally known as the Core Strategic Grant and latterly as the Institute Strategic Programme Grants – comes from the BBSRC and is our largest single grant provision. However, this grant has not been increased with inflation in recent years and the new award made in March 2012 also has no provision for inflation. This first period also coincided with a period of decreases in DEFRA funding from approximately one third of income to one ninth. This legacy has given us substantial problems and only in 2012/13 are we expecting to achieve 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 397 for the charity (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 £18,118k for the charity (2011 £19,612k, 2010 £19,316k) and £18,485k (2011 £19,991k) for the group. Inflationary pressures continue in relation to the cost base of the Company, of particular note is the employer's contribution to the JSS pension scheme to 26% in 2010/11. This compares to a predicted level of 13%, taking into account matching obligations, for staff employed on Rothamsted Research terms and conditions.

At the same time income levels relating to continuing operations (c f total incoming resources, below) – see income and expenditure account summary after Note 22 of the financial statements - have fallen to £31,378k (2011 £32,423k, 2010 £30,741k, 2009 £30,135k) for the charity, whilst costs increased to £29,650k (2011 £28,896k, 2010 £33,875k, 2009 £26,862k). The resulting net income position that results is an overall surplus of £1,728k for the year (2011 £3,527k surplus, 2010 £3,134k deficit, 2009 £589k surplus). The previous year's higher surplus was partly due to a number of projects completing in the year and the consequent release of previously unrecognised revenue.

The Trustees recognised that a renewed emphasis on cost saving is essential and a restructuring plan around the new scientific strategy has been initiated. It was expected that those affected would leave the Institute by 31 March 2012 but although partially successful this target has not been fully achieved, such that a full reduction will not be achieved until 31 March 2013. A business plan, based on improved diversity of income going forward and the reduction of posts through the restructuring programme has been approved by the Trustees.

Regarding fixed assets, the investment carrying value of VSNi was reassessed and reduced in the 2008/9 accounts. Having reviewed the current value, the Directors do not believe any further impairment is required in 2011/12.

Principal Funding Sources

Incoming resources for the Charity for the year totalled £36,350k (2011 £37,782k, 2010 £41,432k, 2009 £29,629k) of which £30,578k was relating to unrestricted funds (2011 £30,660k, 2010 £29,602k, 2009 £27,503k). 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.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

FINANCIAL REVIEW (continued)

Principal Funding Sources (continued)

The core strategic grant (ISPGs *et cetera*) from BBSRC for 2011/12 remained level compared with 2010/11 at £13,209k for the year. Despite continued efforts of staff in increasing BBSRC competitive grant income this has fallen to £5,075k (2011 £6,292k, 2010 £5,689k, 2009 £4,830k). This is disappointing after 3 successive years of increase, but is likely to have been partly due to the commitment of senior staff to work associated with the Institute Assessment Exercise and the very full and detailed applications for the new round of ISPGs which were successfully defended. 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 been all but arrested achieving £3,990k in 2011/12 with the major contribution coming from North Wyke in maintaining this aspect of funding. We are conscious that it remains a risk as future funding levels continue to be uncertain especially with public sector constraints. DEFRA is now working under (DEFRA income to end March 2011 was £3,786k, 2010 £4,517k, 2009 £3,159k – note jump on merger with North Wyke in 2009/10). 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 cannot always afford to maintain the required teams of researchers when funding is not being won.

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 at Rothamsted almost entirely funded through the BBSRC has largely come to its conclusion with the completion of a field insect laboratory, the Sample Archive (with the Lawes Agricultural Trust) and site road works in 2009/10. The “Farm Platform” at North Wyke is now structurally complete, and will be a first class facility for applicable 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 which will be used to help finance the Company’s research programmes.

In addition to the above investments the Company has a policy of keeping available funds in an interest bearing deposit account and the money market to achieve a rate of interest which exceeds inflation as measured by the retail price index, though 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.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

FINANCIAL REVIEW (continued)

Reserves policy

The directors review the reserves of the Company on an annual basis. These reviews encompass the nature of the income and expenditure streams, the need to match variable income with fixed commitments, the need to fulfil longer term liabilities and the need to replace and extend the capital assets of the Company where necessary. 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 level of unrestricted reserves continues to be lower than the required level due to increased inflationary pressures on major items of expenditure and the investment of significant amounts in the site redevelopment in previous years. The poorer results than anticipated have limited our ability to improve reserves, but it is planned that the level of reserves can be improved over the next five years provided restructuring plans can be implemented during 2012/13. 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 target has not been achieved but is certainly one that the Company is striving to achieve.

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. 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 further reducing 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. The marked decline in DEFRA funding has been arrested due to the acquisition of North Wyke. As the proportion of income has declined from around one third to one tenth of the total, interactions with DEFRA have become more distant than in the past. DEFRA policy objectives remain very relevant to our work and it is important that routes to policy makers are kept active through colleagues at North Wyke and new opportunities opened up throughout the Institute.

There will be many other challenges for the Company. The greatest emphasis for future income will be industrial and European Union and resources will be allocated towards achieving this.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

FUTURE DEVELOPMENTS (continued)

In February 2011, Rothamsted Research was required to join the Research Council's shared services facility "SSC" covering procurement and transactional activities of Finance and Human Resources. There is no doubt that this move has been an enormous challenge to the functioning of the Company and represented the greatest operational risk. The full impact of this in terms of staff, service and cost implications had been continually under review throughout 2011. The change in governance for Rothamsted Research that came into effect on 3rd October 2011 necessitated completely new terms and conditions for new staff employed directly by the Institute as well as procedures relating to pension needing to be developed. It became clear that these and other activities relating to governance and corporate processes fall outside the remit of SSC and so the SSC was therefore unable to satisfy the future business needs of the Institute. 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 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 now 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. 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. However, the land is in Green Belt and so actual planning permission will still be a challenge. This project will be owned by Lawes Agricultural Trust Company Ltd (LATCo) and progressed in association with Rothamsted Research and, where possible, with BBSRC.

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. Rothamsted Research has been occupying these without a commercial lease, so at the moment it is unclear how much expenditure the Institute will need to commit to building dilapidations as part of this arrangement. One of these buildings has attracted interest from tenants who would form the basis of the "Green Science Park" previously mentioned. 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.

Rothamsted Research Limited

REPORT OF THE TRUSTEES

FUTURE DEVELOPMENTS (continued)

Having started negotiations with BBSRC in 2006/07 the Board of Rothamsted Research has been developing a new Governance model in response to the policy from BBSRC and in close conjunction with the Charity Commission. After extensive discussion this has now been achieved and its full implementation is now in progress.

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. Appointed in Spring 2010 as the 12 Director of Rothamsted Research, Professor Maurice Moloney, continues to be extremely proactive in examining and revising strategies, building relationships with new funders – especially multinational industries - and attracting new talent to meet the challenges of the future.

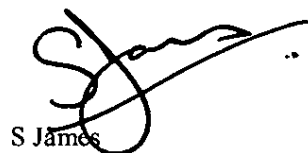
AUDITORS

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

STATEMENT AS TO DISCLOSURE OF INFORMATION TO AUDITORS

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 auditors are 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 auditors.

By Order Of The Board



S James
Company Secretary
Rothamsted Research Limited
Harpenden
Hertfordshire
AL5 2JQ
Dated

12/12/2012

Rothamsted Research Limited

STATEMENT OF TRUSTEES' RESPONSIBILITIES

STATEMENT OF TRUSTEES' RESPONSIBILITIES

The trustees (who are also directors of Rothamsted Research Limited for the purposes of company law) are responsible for preparing the 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

Rothamsted Research Limited

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

We have audited the group and parent charity financial statements of Rothamsted Research Limited ("the financial statements") for the year ended 31 March 2012 on pages 26 to 51. 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.

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

Scope of the audit of the financial statements

A description of the scope of an audit of financial statements is provided on the APB's website at www.frc.org.uk/apb/scope/private.cfm.

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 2012 and of the group's and the parent charitable company's incoming resources and application of resources, including their income and expenditure, for the year then ended,
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice, and
- have been prepared in accordance with the Companies Act 2006.


Opinion on other matter prescribed by the Companies Act 2006

In our opinion the information given in the 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 (Senior Statutory Auditor)

For and on behalf of BAKER TILLY UK AUDIT LLP, Statutory Auditor
St Philips Point
Temple Row
Birmingham
B2 5AF

Date 17/12/2012

Rothamsted Research Limited

CONSOLIDATED STATEMENT OF FINANCIAL ACTIVITIES

for the year ended 31 March 2012

	Notes	Unrestricted funds £'000	Restricted funds £'000	Total funds 2012 £'000	Total funds 2011 £'000
INCOMING RESOURCES					
Incoming resources from generated funds					
- voluntary income		-	-	-	45
- activities for generating funds	1	751	-	751	955
- investment income	2	32	-	32	39
Incoming resources from charitable activities					
- scientific research	3	29,335	5,772	35,107	36,934
- postgraduate education and training	3	924	-	924	367
TOTAL INCOMING RESOURCES		31,042	5,772	36,814	38,340
RESOURCES EXPENDED					
Costs of generating funds					
-costs of goods sold and other costs	5	596	-	596	581
Charitable activities	6a	29,385	5,216	34,601	32,838
Governance costs	7	217	-	217	152
TOTAL RESOURCES EXPENDED		30,198	5,216	35,414	33,571
NET INCOMING RESOURCES		844	556	1,400	4,769
TRANSFERS BETWEEN FUNDS	18	1,800	(1,800)	-	
NET MOVEMENT IN FUNDS IN YEAR		2,644	(1,244)	1,400	4,769
RECONCILIATION OF FUNDS					
Fund balances at 1 April 2011		5,119	50,326	55,445	50,676
Fund balances at 31 March 2012		7,763	49,082	56,845	55,445

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

Rothamsted Research Limited
CHARITY STATEMENT OF FINANCIAL ACTIVITIES
for the year ended 31 March 2012

	Notes	Unrestricted funds £'000	Restricted funds £'000	Total funds 2012 £'000	Total funds 2011 £'000
INCOMING RESOURCES					
Incoming resources from generated funds					
- voluntary income		-	-	-	45
- activities for generating funds	1	287	-	287	397
- investment income	2	32	-	32	39
Incoming resources from charitable activities					
- scientific research	3	29,335	5,772	35,107	36,934
- postgraduate education and training	3	924	-	924	367
TOTAL INCOMING RESOURCES		30,578	5,772	36,350	37,782
RESOURCES EXPENDED					
Costs of generating funds					
-costs of goods sold and other costs	5	48	-	48	20
Charitable activities	6a	29,385	5,216	34,601	32,838
Governance costs	7	217	-	217	152
TOTAL RESOURCES EXPENDED		29,650	5,216	34,866	33,010
NET INCOMING RESOURCES		928	556	1,484	4,772
TRANSFERS BETWEEN FUNDS	18	1,800	(1,800)	-	-
NET MOVEMENT IN FUNDS IN YEAR		2,728	(1,244)	1,484	4,772
RECONCILIATION OF FUNDS					
Fund balances at 1 April 2011		5,122	50,326	55,448	50,676
Fund balances at 31 March 2012		7,850	49,082	56,932	55,448

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

Rothamsted Research Limited

BALANCE SHEETS

31 March 2012

Company Registration Number 2393175

	Notes	Group 2012 £'000	Charity 2012 £'000	Group 2011 £'000	Charity 2011 £'000
FIXED ASSETS					
Tangible assets	10	50,444	50,358	52,791	52,768
Investments	11	132	140	132	140
		<u>50,576</u>	<u>50,498</u>	<u>52,923</u>	<u>52,908</u>
CURRENT ASSETS					
Stock		403	393	273	263
Debtors	12	9,983	9,856	5,336	5,266
Cash at bank and in hand		16,653	16,653	16,005	16,005
		<u>27,039</u>	<u>26,902</u>	<u>21,614</u>	<u>21,534</u>
CREDITORS Amounts falling due within one year	13	(20,540)	(20,238)	(17,223)	(17,125)
		<u>6,499</u>	<u>6,664</u>	<u>4,391</u>	<u>4,409</u>
NET CURRENT ASSETS					
TOTAL ASSETS LESS CURRENT LIABILITIES		<u>57,075</u>	<u>57,162</u>	<u>57,314</u>	<u>57,317</u>
CREDITORS Amounts falling due after one year	14	(230)	(230)	(299)	(299)
PROVISION FOR LIABILITIES	15	-	-	(1,570)	(1,570)
		<u>56,845</u>	<u>56,932</u>	<u>55,445</u>	<u>55,448</u>
NET ASSETS					
FUNDS					
Restricted funds	18	49,082	49,082	50,326	50,326
General fund	18	7,763	7,850	5,119	5,122
		<u>56,845</u>	<u>56,932</u>	<u>55,445</u>	<u>55,448</u>
TOTAL FUNDS					

Approved by the Board and authorised for issue on

12/12/2012 and signed on its behalf by

Jonathan Flowers
Director

J Flowers

Rothamsted Research Limited
CONSOLIDATED CASH FLOW STATEMENT
for the year ended 31 March 2012

	<i>Notes</i>	2012 £'000	2011 £'000
NET CASH INFLOW FROM OPERATING ACTIVITIES	19	1,606	4,766
RETURN ON INVESTMENTS AND SERVICING OF FINANCE			
Interest received		32	39
MANAGEMENT OF LIQUID RESOURCES			
Placement of fixed term deposits		(5,000)	-
CAPITAL EXPENDITURE			
Purchase of tangible fixed assets		(4,878)	(3,989)
Capital grants received		5,772	5,322
Capital grants expended		(1,884)	(1,508)
(DECREASE)/INCREASE IN CASH	20	<u>(4,352)</u>	<u>4,630</u>

The accompanying notes form part of these financial statements

Rothamsted Research Limited

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 £6,499k (2011 £4,391k) and the Charity £6,664k (2011 £4,409k).

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 with effect from the date the shares in Rothamsted Manor Limited and Rothamsted International Consulting Limited were transferred to the direct ownership of Rothamsted Research Limited. 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.

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

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

The Fisher, Daniel Hall and Russell buildings are planned to be returned to the landlord, and as such their remaining useful lives have been reduced to two years. The impact of this is to accelerate the depreciation charge on the buildings by £1,001k.

STOCKS

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

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

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.

Rothamsted Research Limited

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

Income 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

Rothamsted Research Limited

ACCOUNTING POLICIES

GRANTS

Expenditure by the Charity which is financed by grants from third parties to the Charity and which is applied to buildings not owned by the Group is capitalised and included within Restricted Funds. The rent free provision to the Charity of the buildings on which such expenditure has been applied, 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 of BBSRC 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.

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 page 5 of the Report of the Trustees, from 1 October 2011 BBSRC and LAT are now considered related parties of the Institute.

BBSRC funds scientific research and equipment purchases for the Institute. Funding for 2011/12 was £24,806k and the breakdown of this is shown in note 3. BBSRC also from time to time funds redundancy payments linked to restructuring, and in the year the Institute received (£870k) for this purpose. At the 2011/12 year-end BBSRC had £93k included within trade debtors of the Institute, and £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 2011/12 the value of this to the Institute was (£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 £193k in costs and collected £174k in income on behalf of LAT. At year end, the charity was owed £47k by LAT, and RML owed LAT £37k. Details of the agreements regarding the Institute's use of buildings owned by LAT are set out in notes 10 and 22.

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.

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

1	ACTIVITIES FOR GENERATING FUNDS GROUP	Unrestricted 2012 £'000	Restricted 2012 £'000	Total 2012 £'000	Total 2011 £'000
	Consultancy	7	-	7	24
	Other	280	-	280	373
	Sale of goods (RML) – trading	464	-	464	558
		<u>751</u>	<u>-</u>	<u>751</u>	<u>955</u>
	CHARITY	Unrestricted 2012 £'000	Restricted 2012 £'000	Total 2012 £'000	Total 2011 £'000
	Consultancy	7	-	7	24
	Other	280	-	280	373
		<u>287</u>	<u>-</u>	<u>287</u>	<u>397</u>
2	INVESTMENT INCOME GROUP	Unrestricted 2012 £'000	Restricted 2012 £'000	Total 2012 £'000	Total 2011 £'000
	Interest receivable	32	-	32	39
		<u>32</u>	<u>-</u>	<u>32</u>	<u>39</u>
	CHARITY	Unrestricted 2012 £'000	Restricted 2012 £'000	Total 2012 £'000	Total 2011 £'000
	Interest receivable	32	-	32	39
		<u>32</u>	<u>-</u>	<u>32</u>	<u>39</u>

Rothamsted Research Limited
NOTES TO THE FINANCIAL STATEMENTS
for the year ended 31 March 2012

3 CHARITABLE ACTIVITIES

Total incoming resources from charitable activities are analysed as follows

GROUP AND CHARITY	Unrestricted 2012 £'000	Restricted 2012 £'000	Total 2012 £'000	Total 2011 £'000
BBSRC ISPG	13,209	-	13,209	13,209
Competitive Project Grant	5,075	-	5,075	6,292
North Wyke underwriting	-	-	-	-
Minor Works	-	917	917	1,398
Capital Equipment	-	4,055	4,055	1,195
Building project fund	-	-	-	2,729
VAT funding (note 18)	-	-	-	1,800
Insurance funding	-	800	800	-
International Development funding	750	-	750	-
TOTAL BBSRC	19,034	5,772	24,806	26,623
DEFRA Commissions	1,748	-	1,748	2,106
DEFRA Competitive	2,242	-	2,242	1,680
Other Government Departments, Public Sector (see below)	1,618	-	1,618	1,359
European Union	632	-	632	341
Industry	2,380	-	2,380	2,943
Trusts, Foundations, Charities	217	-	217	627
Income from Farm Operations	651	-	651	538
Postgraduate Education and Training	924	-	924	367
Miscellaneous income	813	-	813	717
TOTAL INCOMING RESOURCES	30,259	5,772	36,031	37,301
Other Government departments/Public Sector				
Foreign and Commonwealth Office	139	-	139	2
Food Standards Agency	-	-	-	5
Other Research Councils	467	-	467	447
Department of Trade and Industry	-	-	-	16
Department for International Development	-	-	-	88
Other	1,012	-	1,012	239
Exceptional additional income in relation to Government contracts	-	-	-	562
	1,618	-	1,618	1,359

Rothamsted Research Limited
NOTES TO THE FINANCIAL STATEMENTS
for the year ended 31 March 2012

4 INCOMING RESOURCES

GROUP	Unrestricted	Restricted	Total	Total
Analysis of incoming resources by geographical region	2012	2012	2012	2011
	£'000	£'000	£'000	£'000
United Kingdom	29,963	5,772	35,735	37,281
Europe				
EU	632	-	632	629
Other	137	-	137	21
North America	129	-	129	87
Other	181	-	181	322
	<u>31,042</u>	<u>5,772</u>	<u>36,814</u>	<u>38,340</u>

CHARITY	Unrestricted	Restricted	Total	Total
Analysis of incoming resources by geographical region	2012	2012	2012	2011
	£'000	£'000	£'000	£'000
United Kingdom	29,499	5,772	35,271	36,723
Europe				
EU	632	-	632	629
Other	137	-	137	21
North America	129	-	129	87
Other	181	-	181	322
	<u>30,578</u>	<u>5,772</u>	<u>36,350</u>	<u>37,782</u>

5 COSTS OF GENERATING FUNDS

GROUP	Unrestricted	Restricted	Total	Total
	2012	2012	2012	2011
	£'000	£'000	£'000	£'000
Consultancy	39	-	39	19
Other	9	-	9	1
Cost of goods sold – trading (RML)	548	-	548	561
	<u>596</u>	<u>-</u>	<u>596</u>	<u>581</u>

CHARITY	Unrestricted	Restricted	Total	Total
	2012	2012	2012	2011
	£'000	£'000	£'000	£'000
Consultancy	39	-	39	19
Other	9	-	9	1
	<u>48</u>	<u>-</u>	<u>48</u>	<u>20</u>

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

6a)	CHARITABLE ACTIVITIES	Direct costs £'000	Other costs £'000	Support costs £'000	Total 2012 £'000	Total 2011 £'000
	GROUP AND CHARITY					
	Activity					
	Scientific research	22,077	6,290	5,343	33,710	32,656
	Exceptional VAT Provision (see note 15)	-	-	-	-	(452)
	Postgraduate education and training	633	-	258	891	634
		<u>22,710</u>	<u>6,290</u>	<u>5,601</u>	<u>34,601</u>	<u>32,838</u>

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

6b) SUPPORT COSTS

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

GROUP		Scientific research £'000	Education and training £'000	Governance £'000	Total 2012 £'000	Total 2011 £'000
	Basis					
Commercial and Finance	Staff time	1,650	69	28	1,747	990
Human Resources	Staff time	273	23	-	296	382
Computing Service Institute	Usage	862	9	-	871	963
Management	Staff time	296	39	52	387	335
Other administration	Usage	2,262	118	-	2,380	2,343
		<u>5,343</u>	<u>258</u>	<u>80</u>	<u>5,681</u>	<u>5,013</u>

Rothamsted Research Limited
NOTES TO THE FINANCIAL STATEMENTS
for the year ended 31 March 2012

6b) SUPPORT COSTS (continued)

CHARITY	Basis	Scientific research £'000	Education and training £'000	Governance £'000	Total 2012 £'000	Total 2011 £'000
Commercial and Finance	Staff time	1,650	69	28	1,747	990
Human Resources	Staff time	273	23	-	296	382
Computing Service	Usage	862	9	-	871	963
Institute Management	Staff time	296	39	52	387	335
Other administration	Usage	2,262	118	-	2,380	2,343
		<u>5,343</u>	<u>258</u>	<u>80</u>	<u>5,681</u>	<u>5,013</u>

7	GOVERNANCE COSTS	Unrestricted 2012 £'000	Restricted 2012 £'000	Total 2012 £'000	Total 2011 £'000
	GROUP AND CHARITY				
	Audit fee	58	-	58	42
	Trustee expenses	4	-	4	16
	Support costs	80	-	80	80
	Professional advice to Trustees	75	-	75	14
		<u>217</u>	<u>-</u>	<u>217</u>	<u>152</u>

9 Directors claimed reimbursement of travel expenses, the amount of which was £3,705 (2011 8 Directors claimed reimbursement of £6,452)

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

8	NET INCOMING RESOURCES IS STATED AFTER CHARGING/ (CREDITING) THE FOLLOWING	Group 2012 £'000	Charity 2012 £'000	Group 2011 £'000	Charity 2011 £'000
	Interest received	(32)	(32)	(39)	(39)
	Auditor's remuneration – audit services – parent 2012	58	58	42	42
	Auditor's remuneration – audit services – parent 2011	40	40	-	-
	Auditor's remuneration – audit services - subsidiary	3	-	4	-
	Auditor's remuneration – taxation	166	166	14	14
	Hire of plant and machinery	18	18	33	25
	Depreciation	4,478	4,474	2,908	2,906
	Operating lease rentals				
	Land and buildings	17	17	16	16
		<u> </u>	<u> </u>	<u> </u>	<u> </u>
9	STAFF COSTS AND NUMBERS	Unrestricted 2012 £'000	Restricted 2012 £'000	Total 2012 £'000	Total 2011 £'000
	GROUP				
	Salaries and wages	14,295	-	14,295	15,261
	Social security costs	1,007	-	1,007	1,135
	Other pension costs	3,183	-	3,183	3,595
	Redundancy costs	-	-	-	47
		<u> </u>	<u> </u>	<u> </u>	<u> </u>
		18,485	-	18,485	20,038
		<u> </u>	<u> </u>	<u> </u>	<u> </u>
	CHARITY	Unrestricted 2012 £'000	Restricted 2012 £'000	Total 2012 £'000	Total 2011 £'000
	Salaries and wages	14,029	-	14,029	14,964
	Social security costs	997	-	997	1,119
	Other pension costs	3,092	-	3,092	3,529
	Redundancy costs	-	-	-	47
		<u> </u>	<u> </u>	<u> </u>	<u> </u>
		18,118	-	18,118	19,659
		<u> </u>	<u> </u>	<u> </u>	<u> </u>

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

9 STAFF COSTS AND NUMBERS (continued)

The average number of persons employed by category was

	Group Total 2012 No	Charity Total 2012 No	Group Total 2011 No	Charity Total 2011 No
Science staff	269	269	284	284
Technical and administrative staff	170	161	197	181
	<u>439</u>	<u>430</u>	<u>481</u>	<u>465</u>

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

Science staff	248	248	273	273
Technical and administrative staff	157	149	172	157
	<u>405</u>	<u>397</u>	<u>445</u>	<u>430</u>

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

£60,000 - £69,999	12	12	12	12
£70,000 - £79,999	4	4	5	5
£90,000 - £99,999	1	1	1	1
£140,000 - £149,999	1	1	1	1
	<u>18</u>	<u>18</u>	<u>19</u>	<u>19</u>

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.

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

9 STAFF COSTS AND NUMBERS (continued)

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 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 2011/12, Rothamsted Research Limited paid £3,183k (2010/11 £3,595k) 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 2012 have not yet been published, the total net liability as at 31 March 2011 was £3,022m (2010 £3,490m). The charity expects to pay £2,941k in respect of employer's contribution in 2012/13.

In the year the Charity paid £5.1k in premiums for Professional Indemnity Insurance (2011 £4.2k).

Trustees receive £nil remuneration (2011 £Nil).

10 TANGIBLE FIXED ASSETS

GROUP	Buildings £'000	Plant and machinery £'000	Fixtures, fittings and vehicles £'000	Total £'000
Cost				
As at 1 April 2011	65,300	11,365	1,513	78,178
Additions	1	4,657	220	4,878
Capital Goods Scheme adjustment	(2,660)	-	-	(2,660)
Disposals	(179)	-	-	(179)
As at 31 March 2012	62,462	16,022	1,733	80,217
Accumulated depreciation				
As at 1 April 2011	16,776	7,434	1,177	25,387
Provision for year	2,321	1,944	213	4,478
Disposals	(92)	-	-	(92)
As at 31 March 2012	19,005	9,378	1,390	29,773
Net book value				
As at 31 March 2012	43,457	6,644	343	50,444
As at 31 March 2011	48,524	3,931	336	52,791

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

10	TANGIBLE ASSETS (continued)				
	CHARITY	Buildings £'000	Plant and machinery £'000	Fixtures, fittings and vehicles £'000	Total £'000
	Cost				
	As at 1 April 2011	65,300	11,365	1,488	78,153
	Additions	1	4,657	153	4,811
	Capital Goods Scheme adjustment	(2,660)	-	-	(2,660)
	Disposals	(179)	-	-	(179)
	As at 31 March 2012	62,462	16,022	1,641	80,125
	Accumulated depreciation				
	As at 1 April 2011	16,776	7,434	1,175	25,385
	Provision for year	2,321	1,944	209	4,474
	Disposals	(92)	-	-	(92)
	As at 31 March 2012	19,005	9,378	1,384	29,767
	Net book value				
	As at 31 March 2012	43,457	6,644	257	50,358
	As at 31 March 2011	48,524	3,931	313	52,768

The replacement cost or valuation of land owned by The Lawes Agricultural Trust and occupied by the Charity at 31 March 2012 was £11,595,000 (2011 £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 2012. 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.

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

11 INVESTMENTS

GROUP	Unlisted investments £'000
Valuation	
As at 31 March 2011 and 31 March 2012	263
Impairment	
As at 31 March 2011 and 31 March 2012	(131)
Net Book Value	
As at 31 March 2011 and 31 March 2012	132

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 cost shown above includes legal and professional fees associated with the purchase of the shares. The value of these shares was reduced by £131k during 2008/9, reflecting reduced expectations of future income from the investment. No further impairment is required in 2011/12. 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 2011 and 31 March 2012	263	45	308
Impairment			
As at 31 March 2011 and 31 March 2012	(131)	(37)	(168)
	<u>(131)</u>	<u>(37)</u>	<u>(168)</u>
Net Book Value			
As at 31 March 2011 and 31 March 2012	<u>132</u>	<u>8</u>	<u>140</u>

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

11 INVESTMENTS (Continued)

Shares in subsidiary undertakings

The Charity held the following shares in subsidiary undertakings at 31 March 2012

	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	(78,327)	England & Wales
Rothamsted Experimental Station Limited (dormant)*	Ordinary	100	1	England & Wales

* held indirectly via Lawes Agricultural Trust Holdings Limited

The results of Rothamsted Manor Limited, for the year ended 31 March 2012, which are included in the consolidated financial statements, are set out below

	£'000
Turnover	464
Cost of sales	(548)
Gift aid to Rothamsted Research	-
	<hr/>
Retained loss for the year	(84)
Net assets at 1 April 2011	5
	<hr/>
Net liabilities at 31 March 2012	<u>(79)</u>

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

11 INVESTMENTS (Continued)

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. A provision in respect of an amount of £77,254 due from Lawes Agricultural Trust Holdings Limited to Rothamsted Research Limited was reflected in the financial statements in 2010/11.

12	DEBTORS	Group 2012 £'000	Charity 2012 £'000	Group 2011 £'000	Charity 2011 £'000
	Due within one year				
	Trade debtors	2,333	2,273	2,154	2,076
	Other debtors	911	806	744	744
	Prepayments and accrued income	6,713	6,713	2,406	2,406
	Due from subsidiary undertaking	-	38	-	8
		<u>9,957</u>	<u>9,830</u>	<u>5,304</u>	<u>5,234</u>
	Other debtors – due after one year	26	26	32	32
		<u>9,983</u>	<u>9,856</u>	<u>5,336</u>	<u>5,266</u>
		<u><u>9,983</u></u>	<u><u>9,856</u></u>	<u><u>5,336</u></u>	<u><u>5,266</u></u>
13	CREDITORS Amounts falling due within one year	Group 2012 £'000	Charity 2012 £'000	Group 2011 £'000	Charity 2011 £'000
	Loans from the BBSRC	2,500	2,500	2,500	2,500
	Trade creditors	658	482	2,065	2,009
	Other taxes and social security costs	311	311	2,498	2,498
	Other creditors	628	628	452	452
	Accruals	4,047	3,921	1,070	1,028
	Deferred income	12,396	12,396	8,638	8,638
		<u>20,540</u>	<u>20,238</u>	<u>17,223</u>	<u>17,125</u>
		<u><u>20,540</u></u>	<u><u>20,238</u></u>	<u><u>17,223</u></u>	<u><u>17,125</u></u>

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

13 CREDITORS Amounts falling due within one year (Continued)

Deferred income represents income received in advance of expenditure The movement can be analysed as follows	Group 2012 £'000	Charity 2012 £'000	Group 2011 £'000	Charity 2011 £'000
Opening balance	8,638	8,638	7,460	7,460
Amounts deferred during the year	12,396	12,396	8,638	8,638
Release of amounts previously deferred	(8,638)	(8,638)	(7,460)	(7,460)
	<u>12,396</u>	<u>12,396</u>	<u>8,638</u>	<u>8,638</u>

14 CREDITORS Amounts falling due after more than one year	Group 2012 £'000	Charity 2012 £'000	Group 2011 £'000	Charity 2011 £'000
Loans from the BBSRC	125	125	125	125
Redundancy accruals, relating to annual pension contributions for former staff	105	105	174	174
	<u>230</u>	<u>230</u>	<u>299</u>	<u>299</u>
	Group 2012 £'000	Charity 2012 £'000	Group 2011 £'000	Charity 2011 £'000
Repayable within 1 – 2 years	60	60	69	69
Repayable within 2 – 5 years	170	170	230	230
	<u>230</u>	<u>230</u>	<u>299</u>	<u>299</u>

15 PROVISION FOR RETROSPECTIVE VAT ASSESSMENT

	Group 2012 £'000	Charity 2012 £'000
Provision as at 1 April 2011	1,570	1,570
Paid in the year	(1,570)	(1,570)
	<u>-</u>	<u>-</u>
Provision as at 31 March 2012	-	-

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

15 PROVISION FOR RETROSPECTIVE VAT ASSESSMENT (Continued)

On 16 September 2008 the Charity received a Notice of Assessment from HMRC for outstanding VAT, and at 31 March 2011 a provision of £1,570k remained outstanding in relation to the outstanding balance BBSRC provided restricted funding during 2011 to settle this liability. The outstanding assessment was fully settled and paid during the current financial year.

16 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.

17 COMMITMENTS

As at 31 March 2012, the Charity had no financial commitments (2011 £Nil).

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

	Group 2012 £'000	Charity 2012 £'000	Group 2011 £'000	Charity 2011 £'000
Land and buildings expiring in the second to fifth year	17	17	17	17

18 FUNDS	Unrestricted £'000	Restricted £'000	Total £'000
GROUP			
Funds as at 31 March 2012	7,763	49,082	56,845
Funds balances are represented by			
Fixed assets	6,109	44,467	50,576
Current assets	22,424	4,615	27,039
Current liabilities	(20,540)	-	(20,540)
Long-term liabilities	(230)	-	(230)
Total net assets	7,763	49,082	56,845

Rothamsted Research Limited
NOTES TO THE FINANCIAL STATEMENTS
for the year ended 31 March 2012

18 FUNDS (continued)

CHARITY	Unrestricted £'000	Restricted £'000	Total £'000
Funds as at 31 March 2012	7,850	49,082	56,932
Funds balances are represented by			
Fixed assets	6,031	44,467	50,498
Current assets	22,287	4,615	26,902
Current liabilities	(20,238)	-	(20,238)
Long-term liabilities	(230)	-	(230)
Total net assets	7,850	49,082	56,932
GROUP		2012 £'000	2011 £'000
GENERAL FUND			
Balance brought forward		5,119	3,258
Net incoming resources		2,644	1,861
Balance carried forward		7,763	5,119
CHARITY		2012 £'000	2011 £'000
GENERAL FUND			
Balance brought forward		5,122	3,258
Net incoming resources		2,728	1,864
Balance carried forward		7,850	5,122

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

18 FUNDS (continued)

GROUP AND CHARITY	2012 £'000	2011 £'000
DESIGNATED FUNDS		
ROTHAMSTED MANOR MAINTENANCE FUND		
Balance brought forward	-	100
Outgoing resources - expenditure during 2010/11	-	(100)
	<hr/>	<hr/>
Balance carried forward at 31 March 2012	-	-
	<hr/>	<hr/>

RESTRICTED FUNDS	2012 £'000	2011 £'000
GROUP AND CHARITY		
Capital Fund		
Balance brought forward	48,526	47,318
Grants received	5,772	5,322
Expenditure of capital grants included in resources expended	(1,884)	(1,508)
Depreciation charge for the year	(3,332)	(2,606)
	<hr/>	<hr/>
Balance carried forward	49,082	48,526
	<hr/>	<hr/>

This fund represents funding received, principally 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.

GROUP AND CHARITY	2012 £'000	2011 £'000
VAT Fund		
Balance brought forward	1,800	-
Funding received in year	-	1,800
Transfer	(1,800)	-
	<hr/>	<hr/>
Balance carried forward	-	1,800
	<hr/>	<hr/>

This fund represents funding received from the Biotechnology and Biological Sciences Research Council to settle the liability described in note 15. The transfer follows settlement of this liability and fulfilment of the restriction on the funding.

Rothamsted Research Limited
NOTES TO THE FINANCIAL STATEMENTS
for the year ended 31 March 2012

19	RECONCILIATION OF THE GROUP NET INCOMING RESOURCES FOR THE YEAR TO NET CASH INFLOW FROM OPERATING ACTIVITIES	2012 £'000	2011 £'000
	Net incoming resources	1,400	4,769
	Subsidiaries acquired during 2010/11	-	(45)
	Interest receivable	(32)	(39)
	Depreciation charges	4,478	2,908
	Loss on disposal of fixed assets	87	-
	Provision for VAT liability	(1,570)	(452)
	Capital grants (net)	(3,888)	(3,814)
	(Increase)/decrease in stocks	(130)	2
	(Increase)/decrease in debtors	(4,647)	958
	Increase in creditors	5,908	479
		<hr/>	<hr/>
	Net cash inflow from operating activities	1,606	4,766
		<hr/>	<hr/>
20	ANALYSIS OF CHANGES IN NET FUNDS	At 31 March 2011 £'000	Cash flow £'000
	Bank balances and cash	16,005	(4,352)
	Short term deposits	-	5,000
	BBSRC loans due within one year	(2,500)	-
	BBSRC loans due after one year	(125)	-
		<hr/>	<hr/>
		13,380	648
		<hr/>	<hr/>
		14,028	
		<hr/>	<hr/>

Rothamsted Research Limited

NOTES TO THE FINANCIAL STATEMENTS

for the year ended 31 March 2012

21	RECONCILIATION OF NET CASH FLOW TO MOVEMENT IN NET FUNDS	2012 £'000	2011 £'000
	Increase in fixed term deposits	5,000	-
	Decrease in cash in the period	(4,352)	4,630
		<hr/>	<hr/>
	Change in net funds	648	4,630
	Net funds at 31 March 2011	13,380	8,750
		<hr/>	<hr/>
	Net funds as at 31 March 2012 (note 20)	14,028	13,380
		<hr/> <hr/>	<hr/> <hr/>

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 2012 (2011: £Nil).

The Institute is currently restructuring its staff and accommodation footprint, and three buildings will be released back to the Lawes Agricultural Trust, for letting to third parties. These buildings have been occupied by the Institute at no cost and without a commercial lease. At present, therefore, it is unclear how much, if any, expenditure the Institute will need to commit to building dilapidations as part of this move. There is a target date of the end of the current financial year to come to a conclusion on the various issues in need of resolution in relation to this issue.