



**AGRI-FOOD AND BIOSCIENCES INSTITUTE
2010-2011 ANNUAL REPORT
AND STATEMENT OF ACCOUNTS**





Agri-Food and Biosciences Institute
Annual Report and Accounts
For the year ended 31 March 2011

Laid before the the Northern Ireland Assembly
under the Agriculture (Northern Ireland) Order, 2004
by the Department of Agriculture and Rural Development
on 21st February 2012

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FOREWORD FROM THE CHAIR



I am delighted to introduce the Annual Report and Statement of Accounts for the Agri-Food and Biosciences Institute (AFBI) for 2010/11.

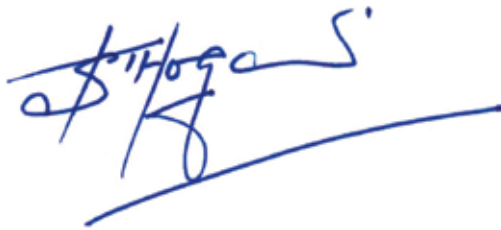
In this our fifth year, AFBI has continued to meet the performance standards set by the Department of Agriculture and Rural Development (DARD). AFBI has also managed to continue growing revenues from sources other than grant-in-aid from DARD. These now account for approximately 25% of the Institute's total revenue and I congratulate our Executive and staff on this achievement.

In the final year of the 3-year Comprehensive Spending Review (CSR), AFBI has again delivered fully against efficiency savings while also absorbing significant inflationary pressures. Excluding the latter, efficiency savings for the CSR period ended on 31 March 2011 have totalled more than £3.1m. As AFBI enters the new 4-year CSR period, it is becoming ever more challenging to maintain support at current levels while delivering additional savings and efficiencies. As a Board we will continue to work closely with the Executive team and DARD to ensure that vital work programmes continue to be delivered within budget.

During 2010/11 I am pleased to have established two new committees to support the work of the Board; a Finance Committee to oversee and support AFBI's financial monitoring and reporting, and a Science Strategy Committee to support the Executive in identifying the scientific technologies and capabilities that will be of strategic importance for the development of AFBI over the next 10 years, so that it can continue to provide cutting edge scientific support to our customers. I am looking forward to seeing the outworking of the Science Strategy Committee as it will be of fundamental importance to the future of the Institute.

I would like to take this opportunity to thank Dr Michael Hollywood and Mr Kieran Campbell, who retired from the Board on 31 March 2011, for their dedication and support during their time in office since the Institute was formed in 2006. Both served on AFBI's Audit Committee since AFBI's inception, with Michael having chaired the committee with distinction during AFBI's formative first five years. I am pleased to welcome Mrs Hilary McCartan and Mr Bob McCann who joined the Board on 1 April 2011. Hilary has also assumed the role of chair of the newly formed AFBI Finance Committee while Bob has taken over the chair of our Audit Committee.

While we will continue to remain in a difficult economic environment for some time, the period ahead will undoubtedly be associated with challenging budgetary conditions. However, I am confident that the quality of AFBI's staff will allow AFBI to continue to grow and develop as a world leading scientific Institute, supporting Agri-Food, our largest and most important sector and providing a range of scientific services to a worldwide customer base.

A handwritten signature in blue ink, appearing to read 'Seán Hogan', with a long horizontal flourish extending to the right.

Seán Hogan
Chair

CHIEF EXECUTIVE'S REVIEW



I am pleased to present the Annual Report and Statement of Accounts for the Agri-Food and Biosciences Institute (AFBI) for the 2010/11, the fifth year of the Institute's existence. The widespread recognition of the growing economic importance of the agri-food sector, driven by the global food security agenda and export market opportunities for Northern Ireland, has contributed to the increased vibrancy and positive outlook for the industry. It is also accepted that higher levels of R&D and innovation are required to underpin further sustainable expansion of food production. As highlighted in this Annual Report, AFBI's services are increasingly in demand by public and private sector customers in meeting the challenges of increased productivity, profitability and sustainability, through the provision of scientific services in a range of areas.

AFBI carries out a range of statutory, surveillance, analytical, emergency response and R&D work in the areas of animal health and welfare, plant health, food innovation and safety, the environment, marine and freshwater fisheries, and rural and agri-food economics. During the year, AFBI has continued to deliver services to the Department of Agriculture and Rural Development, our sponsor department, and other government departments and agencies, while continuing to grow the Institute's contract work with a wide range of private sector organisations. The reduction in grant-in-aid from £44.4m in 2008/09 to £41.4m in 2009/10 and £39.5m (excluding an exceptional amount of £4.98m in respect of pensions liabilities) in 2010/11 has necessitated a significant reduction in staff complement and efficiency savings across a range of areas. However, income from sources other than grant in aid, has now grown to approximately 25% of total revenue and, in addition to adding value to public sector investment in the Institute, significantly augments AFBI's scientific skills and capacity.

During the year we invested significant time in AFBI's strategic development, including a fundamental reworking of our processes for strategic and business planning. With input from staff from across the Institute, we have developed a new strategic planning process and an ambitious 4-year Corporate Strategy. We have also developed a Marketing and Business Development Strategy. I am grateful to the Strategic Investment Board (SIB) for supporting the development of both strategies and, in so doing, recognising the potential for AFBI's knowledge base to add further value to the local economy.

The quality guarantee provided by external accreditation of laboratory testing and R&D is becoming increasingly important to public and private sector customers.

During the year we have extended the scope of ISO 17025 accreditation for a wide range of laboratory tests. We have also extended the scope of our ISO 9001 accreditation to encompass not only our entire portfolio of R&D projects, but also several specialist scientific analytical and diagnostic services. The award of Entrustment Status to AFBI's Plant Testing Station at Crossnacreevy by the European Community Plant Variety Rights Office (CPVO) is an additional independent measure of the high quality of scientific work carried out in AFBI.

The high international standard of scientific work carried out in AFBI is evidenced by frequent invitations to staff members to speak at international conferences, join European R&D consortia, participate in EU inspection missions to various countries and undertake contract work for organisations in several countries. In line with the Northern Ireland Executive's commitment to the "Barrosa Task Force" aims of increasing the value of competitive EU funding drawn down by Northern Ireland organisations, I am particularly pleased that AFBI scientists have won several EU grants as co-ordinator or partner in several INTERREG and Framework 7 projects. With support of the AFBI Board, I wish to expand our international business portfolio, including building on Memoranda of Understanding already in place with a number of overseas Institutes. I was pleased to lead a group of AFBI staff on an animal health mission to the United States early in the year and am grateful to INVEST Northern Ireland for support for the visit.

I would like to thank AFBI's scientific, administrative and support staff for their skill, commitment and drive that have enabled the Institute to further develop its business despite the current economic challenges. I am confident that the continued hard work and dedication of our staff will enable AFBI to go from strength to strength as a scientific organisation and provide an even higher standard of service to all of our local, national and international customers.



Professor Seamus Kennedy
MVB PhD MRCVS FRCPath
Chief Executive and Accounting Officer

Date: 25 January 2012

MANAGEMENT COMMENTARY



Scope

The Agri-Food & Biosciences Institute presents its accounts for the financial year ended 31 March 2011. The Institute was formed on 1 April 2006 with the amalgamation of the Department of Agriculture and Rural Development (DARD) Science Service division and the Agricultural Research Institute of Northern Ireland, which was a separate Non-Departmental Public Body (NDPB) funded by DARD. AFBI is established under the Agriculture (Northern Ireland) Order, 2004, as a DARD NDPB.

Accounts Direction

The accounts have been prepared under the Accounts Direction given by the Department of Agriculture and Rural Development, with the approval of the Department of Finance & Personnel, in accordance with the Agriculture (Northern Ireland) Order 2004.

Vision

To be an internationally recognised and successful centre of excellence for scientific research and services within the sphere of biosciences.

Our mission

AFBI's mission is to deliver effective, high quality scientific services in the bio-sciences field to local, national and international public and private sector customers.

Corporate Objectives

1. To sustain and grow our business spectrum.
2. To deliver high quality, cost-effective scientific, economic and emergency response services to our customers.
3. To be the preferred partner or contractor in our delivery of local, national and international scientific services.
4. To maintain the necessary skills and resources to be able to provide services, including an emergency response that meets the agreed requirements of customers.
5. To seek to continually improve the management of our business and deliver services which are value for money.

AFBI has an important role in assisting DARD to achieve its objectives. DARD's objectives are:

Objective 1:

Improving performance in the market.

Objective 2:

Safeguarding animal fish and plant health.

Objective 3:

Maintaining and investing in the environment.

Objective 4:

Building a successful rural economy and society.

AFBI supports DARD's objectives by delivering:

- statutory, analytical and diagnostic work;
- research and development;
- specialist scientific advice;
- an emergency response capability in the context of animal and plant disease outbreaks and other emergencies in the food and environment areas.

Funding

AFBI is an NDPB sponsored by DARD and is funded through Grant-in-Aid. The Grant-in-Aid is voted in DARD's Estimate and is subject to Assembly control. AFBI's current and capital expenditure form part of DARD's Resource DEL and Capital DEL respectively. AFBI also raises funds through receipts generated in the course of its operating activities. In 2010/2011 the grant-in-aid amounted to £44.1m (2009/2010: £39.5m excluding a one off amount of £4.98m in respect of pension claims).

Relationship with DARD

AFBI's main point of contact with DARD is the Sponsor Branch (ASB) in the department. Regular meetings are held with the Sponsor Branch where matters relating to corporate governance, performance measurement, budgets, financing and accountability matters are discussed.

AFBI's responses to the quarterly monitoring rounds, Comprehensive Spending Reviews are all routed through ASB.

Relationships with other Government Departments and agencies

AFBI has signed Service Level Agreements to provide services to DCAL and FSA NI. It also does a significant body of work for DEFRA and its agencies and NDPBs.

Relationships with educational establishments

AFBI continues to co-operate on projects with both local universities and has also developed close working relationships with universities and institutions in the Republic of Ireland, Scotland, India, China and the United States of America.

Marketing

AFBI has also embarked upon strengthening its marketing team in order to enable it to look for wider markets for its specialist services and expertise and to widen and strengthen its income stream. During the year work was carried out with Invest NI and UK Trade and Investment (UK&TI) to promote AFBI in international markets. AFBI participated in two trade missions to the United States on Animal Health. A visit to China, supported by ICUK, was undertaken in December 2010. The Agri Food Competence Centre was established and a Business Manager has been appointed. Three international co-operation projects with partners in Spain, New Zealand and the Netherlands were also established. AFBI also became an active partner on two DEFRA research programmes on the UK GHG inventory for agriculture.

Performance

| AFBI Business Plan Objective | Assessment of Achievement |
|--|---------------------------|
| 1: TO SUSTAIN AND GROW OUR BUSINESS SPECTRUM | |
| To grow non-Grant in Aid income to £11.6m in the year ending 31 March 2011. | Fully achieved |
| To roll out commercialisation training to AFBI staff during 2010/11. | Fully achieved |
| To deliver a second AFBI Fund for Innovation by 31 October 2010. | Fully achieved |
| To identify 10 new technology opportunities and 3 new service opportunities by 31 March 2011. | Fully achieved |
| To begin work on at least 2 Invest NI "Proof of Concept" projects, worth approximately £200k, (to support early stage commercialisation of AFBI IP) by 31 December 2010. | Fully achieved |

| AFBI Business Plan Objective | Assessment of Achievement |
|---|---------------------------|
| 2: DELIVER HIGH QUALITY COST-EFFECTIVE SCIENTIFIC AND ECONOMIC SERVICES TO AFBI CUSTOMERS | |
| To develop and agree a MoU and appropriate SLAs with DARD by 31 July 2010.. | Partially achieved |
| To conduct a programme of scientific testing in accordance with accredited standards as indicated in Appendix 3 during 2010/11. (Note test numbers are indicative only) APSBD | Fully achieved |
| To conduct a programme of scientific testing in accordance with accredited standards as indicated in Appendix 3 during 2010/11. (Note test numbers are indicative only) AFESD | Partially achieved |
| To conduct a programme of scientific testing in accordance with accredited standards as indicated in Appendix 3 during 2010/11. (Note test numbers are indicative only) VSD | Fully achieved |
| To maintain ISO 9001 accreditation during 2010/11 | Fully achieved |

| AFBI Business Plan Objective | Assessment of Achievement |
|---|---|
| 2: DELIVER HIGH QUALITY COST-EFFECTIVE SCIENTIFIC AND ECONOMIC SERVICES TO AFBI CUSTOMERS (cont'd) | |
| To maintain ISO 17025 accreditation in appropriate areas during 2010/11 | Fully achieved |
| To develop an integrated GIS-based marine resource database, to provide recommendations to DARD on candidate Marine Conservation Zones (MCZs) for Northern Ireland, by 31 March 2011 | Fully achieved |
| To develop and evaluate the first generation of diagnostic tools for the detection of avian astroviruses by 31 December 2010 | Fully achieved |
| To evaluate novel molecular diagnostics technologies for rapid, sensitive and specific detection of avian influenza, NDV and ILTV by 30 September 2010 | Fully Achieved (after target date) |
| To have developed a new timber production forecasting model and prediction system for the DARD Forest Service by 31 March 2011 | Fully achieved |
| To have produced protocols at a pilot level for the fractionation of key high-value components from grass and forage for use as industrial and manufacturing feedstocks, by 31 March 2011 | Fully achieved |

| AFBI Business Plan Objective | Assessment of Achievement |
|--|---------------------------|
| 3: TO BE THE PREFERRED PARTNER OR CONTRACTOR IN OUR DELIVERY OF LOCAL, NATIONAL AND INTERNATIONAL SCIENTIFIC SERVICES | |
| To work with Invest NI and UKT&I to promote AFBI in international markets during 2010/11 | Fully achieved |
| To support local businesses in the preparation of Business Plans for the establishment of a Northern Ireland Centre for Renewable Energy Research and a Centre for Agri-food Innovation, to be submitted to Invest NI by 31 October 2010 | Fully achieved |
| To establish at least 3 specific cooperation projects with international partners that will benefit AFBI in terms of future revenue generation by 31 March 2011 | Fully achieved |

| AFBI Business Plan Objective | Assessment of Achievement |
|---|---|
| 3: TO BE THE PREFERRED PARTNER OR CONTRACTOR IN OUR DELIVERY OF LOCAL, NATIONAL AND INTERNATIONAL SCIENTIFIC SERVICES (cont'd) | |
| To develop and begin implementation of a 3-Year AFBI Business Development and Marketing Strategy by 31 August 2010 | Fully Achieved (after target date) |
| To become an active partner in DEFRA research programme on the UK GHG inventory for agriculture by 31 March 2011 | Fully achieved |
| To have 100 scientific papers accepted for publication in the refereed scientific literature by 31 March 2011 | Fully achieved |

| AFBI Business Plan Objective | Assessment of Achievement |
|--|---------------------------|
| 4. TO MAINTAIN THE NECESSARY SKILLS AND RESOURCES TO BE ABLE TO PROVIDE SERVICES, INCLUDING AN EMERGENCY RESPONSE, THAT MEETS THE AGREED REQUIREMENTS OF CUSTOMERS. | |
| To progress development of Business Unit Resumption Plans for targeted AFBI business units; and to initiate a programme of exercising of these plans, by 31 March 2011 | Partially achieved |
| To review and develop a plan to test our Contingency Plan in order to test our capability to respond to potential emergencies, by 31 October 2011 | Partially achieved |
| To develop procedures to support decision making in regard to filling vacant posts within AFBI by 30 June 2010 | Fully achieved |

| AFBI Business Plan Objective | Assessment of Achievement |
|--|---|
| 5. TO SEEK TO CONTINUALLY IMPROVE THE MANAGEMENT OF OUR BUSINESS AND DELIVER SERVICES THAT ARE VALUE FOR MONEY. | |
| To achieve in year efficiency savings of £690k by 31 March 2011. These savings are part of cumulative savings of £2.1m delivered by AFBI between 2008 and 2011 | Fully achieved |
| To identify lower priority areas of the DARD work programme for potential cessation (in partnership with DARD), by 31 July 2010 (APSD) | Fully achieved |
| To identify lower priority areas of the DARD work programme for potential cessation (in partnership with DARD), by 31 July 2010 (AFESD) | Fully achieved |
| To identify lower priority areas of the DARD work programme for potential cessation (in partnership with DARD), by 31 July 2010 (VSD) | Fully achieved |
| To develop a Corporate Plan 2011-2014 by 31 January 2011 that will define AFBI's medium- to long-term HR, business and asset needs | Fully Achieved (after target date) |
| To introduce a new Costing and Charging Policy by 31 August 2010 | Fully Achieved (after target date) |
| To develop a contingency scheme for staff redundancies by 31 March 2011 | Fully achieved |
| To manage absenteeism to ensure we achieve less than 8.5 days per annum per whole time equivalent, by 31 March 2011 | Not achieved |
| To maintain expenditure within resource limits and to agreed budgets | Fully achieved |
| To produce unqualified accounts for 2009/10 | Fully achieved |
| To review outsourced HR and accounting services and look for opportunities to reduce costs and improve value for money by 31 December 2010 | Partially achieved |

AFBI Board

AFBI is managed by a Board which has responsibility for providing strategic leadership for the organisation, ensuring that it fulfils the delivery objectives set by the Department of Agriculture and Rural Development (DARD) and for promoting the efficient and effective use of staff and other resources by AFBI.

The main responsibilities of the Board are:

- to ensure that AFBI meets its agreed objectives and targets as set by the DARD Minister, and set down in the Management Statement and Financial Memorandum;
- to provide strategic leadership in the formulation of AFBI's strategy for the discharge of its responsibilities, taking account of the Minister's and DARD's priorities, as outlined in the science and technology strategies and in Service Level Agreements (SLAs) set by DARD and other AFBI customers;
- to ensure that effective arrangements are in place to provide assurance to DARD and the Minister on risk management, governance and internal control;
- to communicate AFBI's strategy and services to stakeholders in NI and beyond;
- to understand and articulate science and research and development needs and advise the Chief Executive on drawing these requirements into the formulation of a strategic plan for AFBI;
- to oversee AFBI's functions, including encouragement of the highest standards in the disbursement of finance, and the efficient and effective use of staff and other resources throughout AFBI;
- to represent AFBI to its key audiences, for example industry, academic institutions and other research providers, locally, nationally and internationally;
- to engage with the Minister and DARD on matters pertaining to the work of AFBI and its strategic direction and input to the overall DARD strategic objectives;
- to identify and assess current and future developments in the agri-food and rural economy sector, and to recommend opportunities to expand into new markets and innovations to meet customers' needs.

Role of the Chairperson of AFBI

The Chairperson is responsible to the Minister. The Chairperson ensures that AFBI's policies and actions support the wider strategic policies of DARD and that AFBI's affairs are conducted with probity. The Chairperson shares with other AFBI Board members the corporate responsibilities set out in the Management Statement and Financial Memorandum (MSFM), and in particular for ensuring that AFBI fulfils the aims and objectives set by DARD and approved by the Minister. The Chairperson shall also set performance measures for the board corporate and individual board members.

Board members

Members are appointed in accordance with the Office of the Commissioner for Public Appointments (OCPA) NI Code of Practice. The terms of appointment of members are for either two or three year periods, with the Chair appointed for four years. The Chair receives an annual remuneration of £24,970 and is expected to commit approximately 40 days per annum to the post. The Deputy Chair receives £10,405 and has a commitment in the region of 20 days per annum. Members are expected to commit in the region of 15 days per year and receive £3,745.

Completion of term of office

The following completed their term of office on 31 March 2011.

Dr Michael Hollywood

Mr Kieran Campbell

Board re-appointments and new appointments

Four new Board members, named below, were also appointed to take office on 1 April 2010 for a four year term:

Mr Trevor Hinds

Mr Seamus McCaffrey

Mr Alan McKeown

Mrs Hilda Stewart

The DARD Minister also announced the appointment of

Mrs Hilary McCartan

Mr Bob McCann

For a four year term from 24 March 2011.

In 2010/2011 the AFBI Board members were:



Chairperson Mr Seán Hogan is a management consultant living in Newry. He is a Masters graduate from Queen's University Belfast in Organisational Management, a Fellow of the Chartered Management Institute, the Institute of

Marketing Management, the Institute of Directors and the Royal Society of Arts Commerce and Manufactures. Mr Hogan is a former board member of the NI Transport Holding Company, and is currently the Chairman of Northern Ireland Water, Chair (Designate) of the proposed Education and Skills Authority. He is also a former member of Warrenpoint Harbour Authority, a former Chairman of Newry & Mourne Health & Social Services Trust and Chairman of the Chairs Forum.



Deputy Chairperson Professor David McDowell lives in Carrickfergus. He has a PhD from the University of Ulster and is a Chartered Biologist. Professor McDowell is currently the Head of Food Microbiology at the University of Ulster. He is also Chair of

the Advisory Group, ProSafebeef and a member of the UK Advisory Committee on the Microbiological Safety of Foods.



Mr. Kieran Campbell lives in Newry. He has an MSc in Corporate Leadership and is a Chartered Accountant with 20 years' experience in senior finance and management roles. He is currently a principal within a property development and investment business.

Mr Campbell is also a Board Member of the Warrenpoint Harbour Authority.



Dr Michael Hollywood lives in Belfast. He holds a PhD in Atomic Physics, from Queen's University. Dr Hollywood is a self-employed management consultant. He was formerly Head of Scientific Research at the Gallaher Ltd Group.



Professor Grace Mulcahy lives in Co Wicklow. She qualified as a veterinary surgeon from University College Dublin (UCD), from where she subsequently gained a PhD. She is currently Professor of Veterinary Microbiology and Parasitology and Dean of

Veterinary Medicine at UCD and is a Foundation Diplomate of the European College of Veterinary Parasitology.

Professor Mulcahy is also a member of the Veterinary Council of Ireland, a voluntary position.



Professor Stewart McNulty lives in Belfast. He qualified in veterinary medicine from Trinity College, Dublin, from where he also gained a PhD. Professor McNulty retired as Chief Veterinary Research Officer with DARD Science Service in 2001. He is a former

member of the Health Promotion Agency Board, NI, a voluntary position.



Mr James Noble lives in Newtownards. He has an MSc from Queen's University and several qualifications in dairying. Mr Noble has previously held a number of public appointments and is currently a Board Member of the Livestock and Meat

Commission and Chairman of the Northern Ireland Transport Holding Company Pension Trustees.



Mr John Rankin lives in Newtownards and has run his own dairy farm for over 40 years. He is a former President of the Ulster Farmers Union and a former ARINI Trustee, a voluntary position. He is Chairman of NFU Mutual NI Regional Advisory Board and

has recently retired as a member of the Agricultural Wages Board.



Mr Michael Walker lives in Newtownabbey. He is managing director of his own consultancy company, providing scientific advice on appellate casework to the UK Government Chemist, and solving chemico-legal problems in food, air, water and the

toxicology of alcohol, drugs and allergens. He works closely with ASEP in Queen's University and is a member of the Food Standards Agency's Northern Ireland Advisory Committee. His previous posts included resident Public Analyst in Northern Ireland and Chief Executive of Forensic Science Northern Ireland. Michael was a founder board member of the Food Standards Agency. He is qualified BSc MSc MChemA FIFST CChem FRSC.



Mr Trevor Hinds lives in Cultra, Co Down and is well known as a professional Executive Resourcing Consultant. He is the Principal of Trevor Hinds Consulting and has enjoyed a wide range of senior level commercial experience within the business and voluntary

sectors. He was formerly Director, Executive Resourcing with PricewaterhouseCoopers, Northern Ireland and assisted with many significant appointments in public, private and voluntary organisations throughout the province. Mr Hinds is also a Board member and Trustee of Mindwise, the leading Mental Health Charity in Northern Ireland; a Board member of the Drainage Council for the Rivers Agency; and a Board member of North City Training Ltd, a member of the Bryson Charitable Group. He is a member and Past President of the Rotary Club of Belfast.



Mr Seamus McCaffrey lives in Irvinestown. He is a practising accountant and a livestock farmer at Irvinestown. He is Chair of Business in the Community's Western Team and a member of the Western 'Investing for Health Partnership', representing

the interests of the private sector along with other members from the statutory and voluntary sectors. Mr McCaffrey is a Past Chair of the Ireland-Poland Business Association, an all-island trade association.



Mr Alan McKeown is Group Business Development Director at Dunbia, one of the UK and Ireland's largest meat processing businesses headquartered in Dungannon. Mr McKeown holds a first class honours degree in Biochemistry and has

previously worked as a management consultant for PricewaterhouseCoopers and Accenture. He lives in Cookstown, and has a keen interest in all aspects of agriculture and rural affairs.



Mrs Hilda Stewart lives in Randalstown. She has an MSc in Sustainable Rural Development from Queen's University Belfast and currently holds two remunerated Ministerial appointments. She is Chair of the CAFRE College Advisory Group (CAG) and an

independent member of the DARD Independent Appeals Panel

Board Sub-committees

There are four sub-committees of the Board.

Remuneration Committee

The remuneration committee is a non-executive advisory committee whose role is to advise the Chair of the AFBI Board in respect of remuneration of the Senior Executive Officers. Whilst, the terms and conditions of employment and remuneration of AFBI employees are within the overall NICS terms and conditions of employment any proposed changes within this overall framework will be subject to review by the Remuneration Committee. During the year, the membership of the remuneration Committee was:

Non-executive chair

Professor David McDowell

Non-executive director

Mr Kieran Campbell

Non-executive director

Mr Trevor Hinds

Audit Committee

The Audit Committee advises the Board and Accounting Officer on issues of risk, internal control, governance and any material items affecting the accounts. The Audit Committee is a sub committee of the AFBI Board and is an independent advisory committee with no executive functions. During the year, the membership of the Audit Committee was:

Non- executive chair

Dr Michael Hollywood

Non-executive director

Mr John Rankin

Non-executive director

Mr Kieran Campbell

Other Attendees

Head of Internal Audit

DARD Internal Audit

Northern Ireland Audit Office

AFBI Sponsor Branch

Chief Executive Officer, AFBI

Head of Corporate Services, AFBI

Head of Finance Branch, AFBI.

Business Development and Marketing Strategy Committee

The role of this Committee is to provide guidance, advice and support to the AFBI - Consultant Team through Phase 1 of the Business Development and Marketing Strategy project.

Non-executive chair

Dr Michael Hollywood

Non-executive director

Mr James Noble

Non-executive director

Mr Alan McKeown

AFBI Board Strategy Sub-Committee

The role of this Committee is to assist the Executive in developing a Science Strategy for AFBI.

In particular, to:

- Identify and prioritise areas of existing scientific work which are of strategic importance to AFBI
- Identify and prioritise areas of existing scientific work which are of lower strategic importance to AFBI and which could therefore be reduced or ceased in order to transfer resources to work of higher priority.

Non- executive chair

Mr Michael Walker

Non-executive director

Prof Stewart McNulty

Non-executive director

Mr Kieran Campbell

AFBI Finance Sub-Committee

In August 2010 the AFBI Board decided to set up a Finance Sub-Committee from 1 April 2011.

Management Board

The executive board of the Institute were as follows:

Chief Executive Officer
 Acting Chief Executive Officer
 Deputy Chief Executive Officer
 Deputy Chief Executive Officer
 Acting Deputy Chief Executive Officer
 Acting Deputy Chief Executive Officer
 Acting Head of Corporate Services

Dr George McIlroy¹
Dr Seamus Kennedy²
Dr Sydney Neill³
Dr Michael Camlin
Dr Arthur Gilmour
Dr David Bryson⁴
Mr Joel Ferguson⁵

¹Dr George McIlroy was absent on long term sick leave from 30 November 2009. He subsequently retired on medical grounds on 19 April 2010.

²Dr Seamus Kennedy was appointed Acting Chief Executive Officer and Accounting Officer on 16 December 2009.

³Dr Sydney Neill was on long term sick leave during the year and subsequently retired on 31 May 2010.

⁴Dr David Bryson was Acting Deputy Chief Executive from 15 December 2008 to 31 August 2009. He reverted to his substantive grade on 1 September 2009 and commenced a subsequent acting up period from 11 January 2010 when Dr Seamus Kennedy was appointed Acting CEO.

⁵Mr Joel Ferguson was appointed acting Head of Corporate Services from 12 December.

The Management Board meets at least monthly with a standing agenda covering finance, resources, operational management, health and safety and business development. The minutes of these monthly meetings are available on AFBI intranet.

Role of the Accounting Officer

AFBI's Chief Executive is designated Accounting Officer for the NDPB by the Departmental Accounting Officer and as such is accountable to Northern Ireland Assembly for AFBI's use of resources as set out in the Management Statement/ Financial Memorandum (MSFM). In particular, the Accounting Officer shall ensure that:

- AFBI's strategic aims and objectives support DARD's wider strategic aims and current PSA objectives and targets;
- the financial and other management controls applied by DARD to AFBI are appropriate and sufficient to safeguard public funds and for ensuring that AFBI's compliance with those controls is effectively monitored ('public funds' include not only any funds granted to AFBI by the Assembly but also any other funds falling within the stewardship of AFBI);
- the internal controls applied by AFBI conform to the requirements of regularity, propriety and good financial management; and
- any grant-in-aid to AFBI is within the ambit and the amount of the Request for Resources and that NI Assembly authority has been sought and given.

Details of Significant Interests Held by the Management Board Members

The Management Board Members do not hold any other directorships or any other significant interests which may conflict with their management responsibilities.

Financial Matters

Remuneration of auditors

The auditors have not been instructed to undertake any non-audit work.

Financial results for the year

AFBI's operating cost statement shows a net operating cost of £40,042k (2009/10: £43,383k).

Within this net position AFBI raised income of £14,733k (2009/10: £10,775k).

Service level agreements are agreed with FSANI and DCAL securing funding in these important areas of work. AFBI presented monthly financial reports to the AFBI Board and reviewed expenditure against budget at the Senior Management Team Meetings to ensure that AFBI's expenditure did not exceed its budgeted resources.

At the year end of the net assets of AFBI is £12,179 (at 31 March 2010: £6,526k).

Treatment of pension liabilities

The treatment of pension liabilities is described in the accounting policy Note 1 on page 66 and under the heading of Pensions in the Remuneration Report on page 70.

Events since the End of the Financial Year

There have been no significant events since the end of the financial year which would affect the results for the year or the assets and liabilities at the year end.

Future Funding

The outcome of the Comprehensive Spending Review 2010 to 2013 determines the amount of funding available to AFBI over the next three years.

In view of the current economic climate and the coalition government's determination to reduce the deficit, further cuts in funding are anticipated. AFBI continues to face price increase in energy and other costs. The impact of these factors requires AFBI to realise increased income from other commercial sources and to increase the efficiency of its operations.

AFBI is committed to widen its funding base and increase its level of funding year to year. AFBI has finalised a marketing strategy to maximise AFBI's commercial role and maintain and enhance its customer base.

AFBI continues to develop its relationship with Invest NI and the EU to realise significant new sources of funding through these agencies.

Other Matters

Career Development

AFBI continues to promote opportunities for career development internally and during the course of this year a total of 30 staff have achieved promotion in a wide range of disciplines and grades.

One of AFBI's strategic objectives is to grow and sustain a high performance business through attracting and developing talented people. In support of this objective, AFBI's Learning and Development Unit provide expert advice on learning and development opportunities covering the diverse range of skills required across the organisation.

This Unit also administers AFBI's Assistance to Study programme which has provided support for 35 staff this year in their pursuit of professional qualifications specific to AFBI's business.

Recruitment

AFBI continues to develop its workforce in line with its business aims which has resulted in a total of 210 new appointments this year, covering grades across the scientific, administrative and industrial disciplines. This number reflects both permanent and temporary appointments.

Work Experience

AFBI is committed to providing work experience opportunities for students at all levels to assist them in developing the key skills required to be successful in today's working environment.

Twenty students in higher education were appointed through AFBI's Work Placement scheme and were allowed the opportunity to develop key work-related skills through a relevant, supervised work placement programme. Work experience was also given to 82 school students covering a range of areas within AFBI.

Environmental

AFBI has taken a number of initiatives in the area of waste reduction on the various sites and new procedures have been introduced to dispose the waste more efficiently.

AFBI also appointed an external consultant to look at energy usage at its Newforge site. The recommendations made by the consultant have been incorporated in the Assets Strategy.

AFBI has successfully completed the initial registration requirements in respect of Carbon Reduction Commitment Energy Efficiency Scheme (CRCEES) and plans to complete the registration process by September 2010 as required under the rules. Implementation of this scheme will assist AFBI in reducing its carbon footprint.

Social

AFBI does not have a policy covering corporate and social responsibility.

Internal Audit

An independent firm of auditors continue to provide Internal Audit services to the AFBI Accounting Officer and provides senior management and the AFBI Audit and Risk Committee with assurances of the adequacy of AFBI's systems of internal control and risk management. The DARD Internal Audit unit also carries out audits of AFBI to provide assurances to the DARD Accounting Officer, DARD Sponsor Branch and the DARD Audit and Risk Committee that AFBI complies with the terms of the Management Statement and Financial Memorandum and other relevant legislative requirements.

Risk Management

AFBI has a risk management strategy and associated risk registers subject to scrutiny by the Institute's Internal Auditors. Risks are reviewed monthly at a divisional level and reported monthly on an exception basis to the SMT and the AFBI Board. The Corporate Risk Register is reviewed quarterly by the Audit and Risk Committee and Internal Audit reviews the risk management process every year.

Performance Assessment of the AFBI Board

Arrangements are in place for an annual self assessment exercise by the AFBI Board to review and refine the objectives of the Board. The Chair of the AFBI Board also sets targets for the AFBI Board and assesses the performance of the individual Board members on behalf of DARD Sponsor Branch. The Performance of the AFBI Chair is assessed by DARD Sponsor Branch.

Compliance with HM Treasury Code of Good Practice on Corporate Governance

AFBI complies with the HM Treasury Code of Good Practice on Corporate Governance and generally complies with the Combined Code on Corporate Governance 2003. All the directors of the AFBI Board are non-executives and the Audit and Risk Committee and the Remuneration Committee chairs and members are all non-executives.

Supplier Payment Policy

AFBI is committed to the Better Payments Practice Code as set out in Annex 4.6 of Managing Public Money and is subject to the Late Payment of Commercial Debt Regulations 2002. AFBI shall comply with the British Standard for Achieving Good Payment Performance in Commercial Transactions (BS 7890). DAO (DFP) 12/08 refers.

Payment is regarded as late if it is made outside the agreed terms, or 30 days after the receipt of a valid invoice where no terms are agreed. In response to the current economic position, the Department for Business Enterprise and Regulatory Reform (BERR) announced in October 2008 that the Central Government was committed to paying businesses in 10 days.

Account NI managed to pay 78% (2009/2010 56%) of the invoices on AFBI's behalf in accordance with the agreed terms or within 10 days.

Security of Personal Data

AFBI is committed to the safeguarding of personal data and has set in place appropriate measures to ensure its security. Detailed information has been made available to staff on the intranet site on the type of information which is considered to be private data and how it should be handled. All members of staff have been advised that it is their personal responsibility to ensure that any document with sensitive information, including personal data, is appropriately secured and to ensure that, and in the case of data held electronically, appropriate access controls are put in place to prevent unauthorised access, whether accidental or deliberate, by others.

Disabled Employees

It is the Institute's policy to give equality of opportunity when considering applications from disabled persons. The Institute complies with all existing legislation in respect to its disabled employees and has recently completed a Disability Action Plan.

Equality of Opportunity

The Institute's policy is to give all eligible persons an equal opportunity for employment and advancement on the basis of their ability, qualifications and aptitude for the work.

Employee Involvement

AFBI maintains regular communications and contact with staff and managers through meetings, team briefings, seminars, bulletins and postings on the intranet. It also has well established arrangements for formal consultation with recognised Trade Union representatives on all significant developments affecting staff.

Health and Safety

AFBI complies with all relevant Health and Safety legislation and where practicable with all Health and Safety best practice. AFBI has team of dedicated Health and Safety advisers and a system of health and safety committees throughout the Institute.

Audit of Accounts

The financial statements are audited by the Comptroller and Auditor General for Northern Ireland. As Head of the Northern Ireland Audit Office, he and his staff are wholly independent of the Institute and findings are reported to Northern Ireland Assembly. The annual fee for the audit of financial statements for 2010/2011 was £32,500 (2009/2010: £45,000).

Disclosure of Information to the Auditor

All information deemed by the auditor to be relevant to their investigations is made available. The Chief Executive, as AFBI's Accounting Officer, has taken all steps to make himself aware of any relevant audit information and to establish that the auditors are aware of that information and have access to it.

AFBI SCIENCE



Science Foreword

AFBI Activities in 2010/11

AFBI is committed to delivering the highest standard of support to its customers in the public and private sector. Whilst DARD remains AFBI's largest single customer, income from other sources now accounts for approximately 25% of AFBI's revenue. This commercial income is earned from work delivered to a wide range of private and public sector clients, locally and internationally. It also includes income from the commercial exploitation of AFBI's Intellectual Property (IP) and income from AFBI's farming activities in support of its research programmes

AFBI's main scientific work areas include;

- Animal health and welfare
- Plant science
- Food safety and innovation
- Environment
- Marine and freshwater fisheries
- Sustainable livestock production
- Agri-food and rural economies
- Emergency response capability

AFBI also delivers R&D for other parts of government, as well as commercially focused services and R&D delivered to private sector customers. A large portfolio of AFBI's analytical testing is accredited to ISO17025 and all R&D is certified to ISO9001.

The types of work undertaken by AFBI on behalf of its clients are outlined below and in the pages that follow.

Animal and Plant Disease Surveillance and Monitoring Food Safety:

AFBI delivers statutory testing, surveillance and scientific advice in relation to animal and plant disease that ensures that the integrity of Northern Ireland's agri-food industry is robustly protected.

AFBI's statutory analytical and diagnostic work plays a critical role in ensuring that Northern Ireland complies with obligations under National and EU legislation and also helps to maintain Northern Ireland's animal and plant disease-free status, thereby defending the export base of Northern Ireland's agri-food sector.

Specifically, AFBI works with DARD and other government departments to:

- Facilitate rapid diagnosis and control of major animal and plant disease outbreaks.
- Detect changing animal and plant disease patterns and the emergence of new diseases.
- Detect animal diseases and infections posing a risk to human health.
- Help ensure the safety of our food on behalf of consumers.
- Maintain Northern Ireland's high plant health status.
- Support DARD in fish stock assessments.

During 2010/11 AFBI delivered these functions through the:

- Provision of analytical testing to monitor the freedom of Northern Ireland food producing animals from notifiable and exotic diseases and from illegal concentrations of veterinary drugs.
- Statutory testing services on a range of food products, environmental samples, seeds and animal feed components.
- Analytical services relating to shellfish monitoring, fish monitoring and national surveillance programmes in food chemistry.
- Statutory activities associated with the legislative control, market release and commercial exploitation of varieties of the primary crops and grassland species used in Northern Ireland.
- Statutory and advisory diagnostic tests for scheduled crop pests, seedborne diseases, potato cyst nematodes, bee diseases, forest pests and diseases and potato wart and viral diseases.

- Surveys to monitor plant pests, weed and disease incidence, fungicide resistance and pesticide usage.
- Assessment of marine commercial fish stocks.

Maintenance of Emergency Response Capability

As well as undertaking surveillance work on behalf of DARD to detect potential threats to animal and plant health and the feed and food chain, and environment, AFBI has a critical role in supporting DARD in responding to any threat that is detected. AFBI's emergency response capacity helps to minimise losses to the local agri-food sector during such incidents.

When such events arise, AFBI provides a rapid scientific and technical response with the immediate availability of specialist skills and resources. AFBI delivers specialist advice as well as analytical and diagnostic support to help manage and control the threat detected.

Research and Development for Government

AFBI provides programmes of R&D in support of DARD and other local government organisations, as well as national and international public bodies and private sector companies.

The R&D that AFBI delivers to DARD and its public sector customers helps to underpin government policy by providing the evidence to inform decision making, whilst also delivering innovative solutions that help maintain the viability and competitiveness of the local agri-food sector.

This R&D activity is also essential to the development of skills and capacity in AFBI to ensure that the Institute can provide a rapid and effective emergency response.

Commercially Focused R&D and Services

AFBI delivers commercially focussed R&D on behalf of a wide range of private sector clients locally, nationally and internationally. Examples of AFBI's commercially focused R&D include:

- Development of added value products for the agri-food and animal health sectors.
- Improvements in agri-food production and processing technology, including the development of cutting edge diagnostics for the animal health sector.

- Identification of candidate animal vaccines and the development and testing of vaccines and anti-viral and anti-bacterial products and treatments.
- Support for the development of renewable energy technologies.
- Commercial partnerships to exploit new plant varieties arising out of germplasm derived from strategic plant breeding programmes.

AFBI also provides a range of commercial services on behalf of clients in the public and private sectors. Examples include:

- Analytical and advisory/diagnostic service for Northern Ireland's agri-food industry.
- UK and EU testing centre for the distinctness, uniformity and stability (DUS) for new varieties of herbage crops.
- UK National List Trials for all the major grass, clover and cereal crops used in Northern Ireland.
- Provision of a specialist analytical and diagnostic service to the Northern Ireland horticultural industry.
- Seabed mapping for offshore installations, including off-shore wind projects.
- Provision of a specialised disease diagnostic service for private veterinary practitioners, poultry organisations and fish farmers in Northern Ireland.

AFBI's research has also been successfully commercialised for the benefit of AFBI as well as the local, national and international agri-food sector and the local economy. In recognition of the significant potential for delivering innovative, added value products from AFBI's research base, the Department of Business, Innovation and Skills (BIS) awarded AFBI £990k in 2008/9 for a 3-year project to build commercialisation capacity within the organisation. AFBI Innovations was established as a result to support AFBI scientific staff in commercialising their research.

AFBI currently receives significant royalty income from the sales by commercial companies of products that have been developed through AFBI R&D work.

AFBI Structure

AFBI has 3 main scientific divisions and a specialist agri-food and rural economics branch.



Agriculture, Food and Environmental Science Division (AFESD)

AFESD delivers statutory testing of food products as well as undertaking basic, strategic and applied research relevant to achieving efficient and responsible practices in sustainable farming, food, fishing and aquaculture, whilst conserving and enhancing the terrestrial and aquatic environments and thus supporting Northern Ireland's rural economy. AFESD has five branches, these being, Agriculture, Agri-environment, Fisheries and Aquatic Ecosystems, Food Chemistry and Food Microbiology.

Applied Plant Science and Biometrics Division (APSBD)

APSBD undertakes statutory testing functions as well as basic, strategic and applied research in the plant sciences which, taking into account implications for the environment, aim to underpin sustainable economic growth and development in the countryside of Northern Ireland. APSBD also provides a professional statistics and ICT support service for AFBI as a whole. The Division has three branches, these being Biometrics and Information Systems, Crops, Grassland and Ecology and Plant Health and Environmental Protection.



Veterinary Sciences Division (VSD)

VSD undertakes statutory testing and surveillance as well as basic, strategic and applied research in animal health and food safety which aims to underpin sustainable economic growth and development of the agri-food industry in Northern Ireland. VSD has 5 branches, these being Bacteriology, Chemical Surveillance, Disease Surveillance and Investigation, Immunodiagnostic and Virology.

Agricultural and Food Economics Branch (AFEB)

AFEB is a specialist unit within AFBI that provides a strategic socio-economic modelling, knowledge transfer and decision support service for a wide range of customers in government, NGOs and the private sector, nationally and internationally.

Corporate Services Division (CSD)

CSD includes AFBI's Human Resources, Finance, Corporate Governance, Estates, Intellectual Property and Commercialisation units.

The sections that follow provide a brief overview of the services and capabilities of AFBI's 14 scientific branches by Division, together with some of the notable achievements of each Branch during 2010-11.

BACTERIOLOGY



Statutory testing for bacterial pathogens, carried out at AFBI Stormont

The Bacteriology Branch at VSD undertakes an integrated programme of statutory, analytical and research work, on the major veterinary bacterial pathogens of animal and public health significance. Much of the work underpins important DARD animal disease control programmes in areas such as bovine tuberculosis and brucellosis. Other work areas include food-borne zoonoses (*Salmonella*, *Campylobacter*, *E. coli*) as well as work on paratuberculosis, botulism, mycoplasmosis and a DNA genotyping service. The Branch also includes a National Reference Laboratory (UK-NI) for animal salmonellosis and provides a number of services to other VSD Branches including central autoclaving and wash-up facilities, media production and monoclonal antibody work.

KEY SERVICES AND EXPERTISE

- Statutory, diagnostic, and other testing for a range of bacterial pathogens
- Provision of a range of R&D services to DARD and other customers, including multidisciplinary projects involving molecular diagnostics, genetics, test development, animal disease models, immunology, experimental design and epidemiology (ISO 90001 certified);
- Molecular diagnostics and molecular epidemiology including genotyping ('strain typing') of *Mycobacterium bovis*, *Brucella abortus* and other bacteria
- Cattle DNA genotyping, monoclonal antibody development and production, central services and media production
- Expert advice to DARD, other Governments bodies and the agri-food industry

KEY CUSTOMERS / SECTORS

The majority of the work of the Branch is statutory and other testing, along with supporting R&D, for our major customer DARD. This work supports important animal disease control and eradication programmes in areas of animal and public health significance, and ultimately helps underpin Northern Ireland's important agri-food industry. Other customers for the work of the Branch include a range of research funders such as the EU, Science Foundation Ireland, Food Standards Agency as well as testing and other services for commercial companies.

KEY ACHIEVEMENTS IN 10-11 YEAR

- ISO 17025 accreditation documentation was submitted for all of the major statutory tests and successful outcomes achieved from all inspections to date
- All statutory testing was delivered in line with agreed targets.
- The Branch was commissioned by DARD to undertake an epidemiological study of on-farm biosecurity for bovine tuberculosis and was awarded EU (EMIDA) funding for a project on novel subunit vaccines for *Mycobacterium avium* subsp *paratuberculosis* (MAP)
- In total staff within the Branch were project leaders on 8 externally funded projects including projects in relation to *M. bovis*, *Mycobacterium avium paratuberculosis* (MAP) and botulism.

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CHEMICAL SURVEILLANCE



CSB hosts Fernando Violante, INMETRO researcher from Rio de Janeiro, Brazil

Chemical Surveillance Branch's major objectives are to underpin the aims and strategies of our customers by providing high quality statutory and analytical services alongside innovative world acclaimed R&D functions. CSB is the UK National Reference Laboratory (NRL) for residues of a wide range of veterinary drugs and for marine biotoxins.

Tests are carried out for residues of licensed veterinary drugs and illegal compounds in meat products and animal feeds. Shellfish are monitored for the presence of harmful natural toxins. This work is supported by strategic research developing novel analytical methods for a wide range of compounds.

KEY SERVICES AND EXPERTISE

- Statutory random and targeted surveillance of agricultural commodities for residues of licensed veterinary drugs and illegal compounds (ISO 17025 accredited);
- Statutory monitoring of shellfish for the presence of marine biotoxins (ISO 17025 accredited);
- Provision of R&D solutions to customers (ISO 9001 certified);
- Consultancy & analytical services to governments & industries worldwide;
- Investigating the causes of chemical residues in the agri-food and providing solutions for the local industry.

KEY CUSTOMERS / SECTORS

CSB provides scientific services to government in Northern Ireland (NI) and the UK, testing food of animal origin under the National Surveillance Scheme (NSS, based on annual NI production).

In addition to this scheme, CSB assists its customers in carrying out supplementary testing programmes. These are undertaken to assure the safety of NI produce and to support the industry in NI, which is heavily dependent on exports (~80% of product being exported from NI). EU and UK law requires that non-compliant results are investigated and appropriate measures taken to identify and exclude non-compliant livestock, and their products, from the food chain. CSB monitors shellfish on behalf of the Food Standards Agency and undertakes end product testing on behalf of Northern Ireland producers. CSB provides consultancy services to industry & government locally as well as globally.

KEY ACHIEVEMENTS IN 10-11 YEAR

- All performance targets for veterinary drug and shellfish toxin analysis were met.
- CSB provided training, analytical & consultancy services, antibody and specialised reagent production, a range of customers.
- CSB gained a flexible scope of ISO 17025 accreditation (Mass Spectrometric methods for veterinary drug residue analysis).
- Continued programme of method development and external accreditation.
- Successfully participated in proficiency testing schemes.
- Grew its customer base for local, national and international consultancy and analytical services.

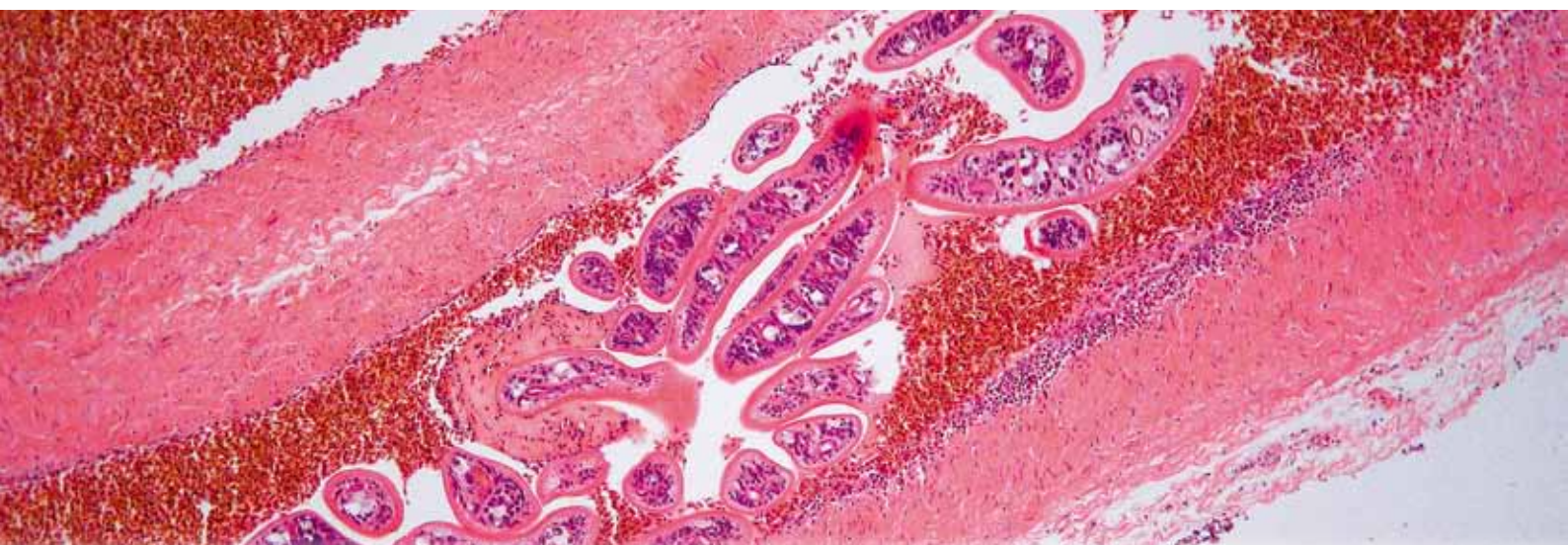
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DISEASE SURVEILLANCE & INVESTIGATION



Schistosomes in a mesenteric blood vessel of a mute swan (Haematoxylin and Eosin x 100)

The main work of Disease Surveillance and Investigation Branch is animal disease surveillance, carried out for the Department of Agriculture and Rural Development (DARD). This work is undertaken at the Veterinary Sciences Division sites at Stormont, and Omagh, County Tyrone. A large volume of diagnostic submissions facilitates surveillance for epizootic, notifiable and zoonotic diseases and the monitoring of changing patterns in endemic diseases. Private veterinary practitioners, poultry organisations and fish farmers contribute to the cost of operating this service through invoicing for diagnostic submissions.

DSIB issues laboratory reports on all diagnostic submissions to vets and fish farmers, and produces a quarterly animal disease surveillance report for DARD. These reports are also published in the *Veterinary Record* journal and on the AFBI website so that private veterinary surgeons are aware of current trends in animal diseases in Northern Ireland.

KEY SERVICES AND EXPERTISE

Statutory functions.

The Branch carries out statutory work including the confirmatory diagnosis of BSE, scrapie and tuberculosis, and investigation of suspected outbreaks of epizootic viral diseases such as avian influenza, Newcastle diseases and swine fever. It also performs forensic examinations in support of DARD investigations of fraud.

Commercial work.

Most of the blood testing carried out for herdowners under AFBI's accredited Cattle

Health Scheme is undertaken in the branch. Similar testing is also carried out for commercial companies on a contract basis.

R&D work.

Staff in DSIB provide support to research projects based in other VSD branches and participate in externally funded R&D on anthelmintic resistance of livestock parasites.

KEY CUSTOMERS / SECTORS

DARD, private veterinary practitioners and livestock owners.

KEY ACHIEVEMENTS IN 10-11 YEAR

- Identification of maedi in imported sheep
- Chronic fasciolosis and *Salmonella Agama* infection in sheep
- *Pieris* (Forest Flame) poisoning in cattle and sheep
- Identification of causes of deaths in mute swans
- Case description of ethylene glycol poisoning in poultry
- Expansion of AFBI's Cattle Health Scheme
- Research on BVD (Bovine Viral Diarrhoea)

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IMMUNODIAGNOSTIC



Immunodiagnostic laboratory at AFBI Stormont

The primary output of the Immunodiagnostic Branch is the provision of high throughput testing programmes for a wide range of important animal diseases, including bovine brucellosis, BSE, scrapie, Aujeszky's disease virus, enzootic bovine leucosis, maedi visna, avian viral and mycoplasma diseases (including Newcastle Disease virus and avian influenza). The Branch provides support for the Northern Ireland agri-food industry through close liaison with our customers, providing laboratory services as part of animal health programmes with the aims of promoting animal health and facilitating national, EU and world-wide trade in animals and animal products from Northern Ireland.

KEY SERVICES AND EXPERTISE

- Provision of testing (DARD and commercial) for important animal and poultry diseases.
- Provision of automated high throughput testing for cattle brucellosis and BSE.
- Provision of advice to customers on animal disease testing.
- Development of improved serological tests for animal and poultry diseases.
- Antigen and antiserum production.
- Contingency planning for major epizootic disease outbreaks.

KEY CUSTOMERS / SECTORS

- Our key customer is DARD, which is the regional Competent Authority charged with implementing Community Law in relation to Animal Health and Welfare.
- Other customers of the Branch include:

- veterinary practitioners (PVPs),
- farmers,
- agri-businesses and
- commercial companies.

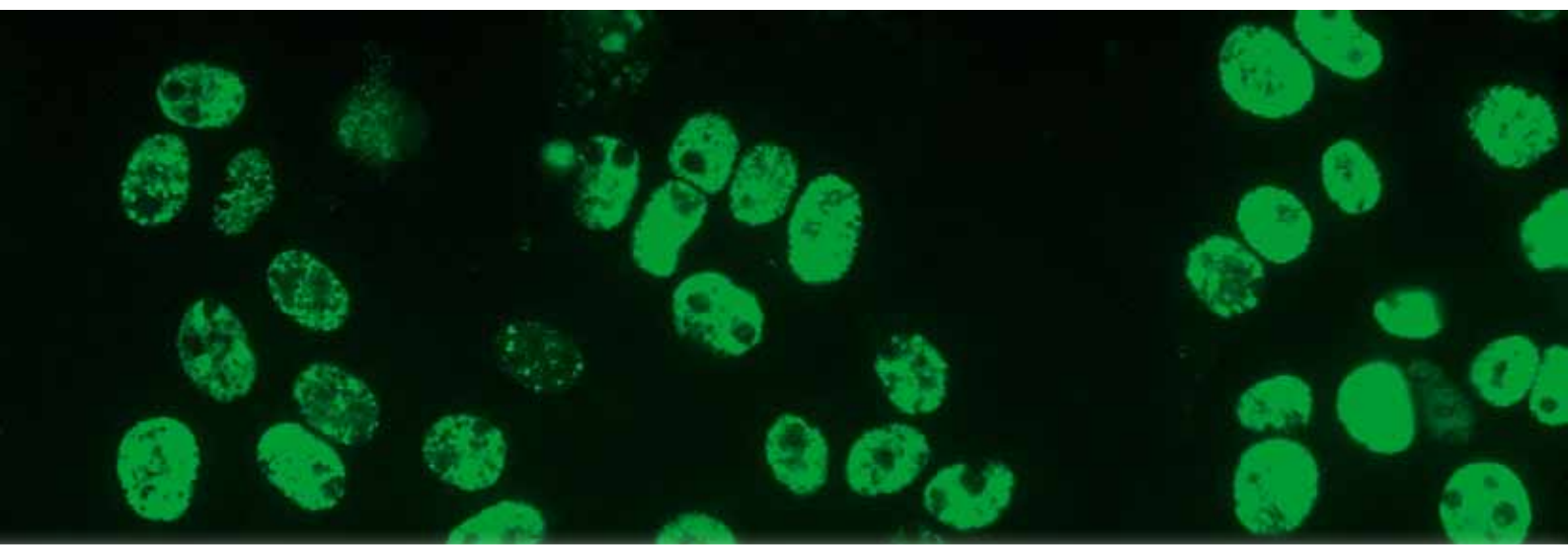
KEY ACHIEVEMENTS IN 10-11 YEAR

- Identification of maedi visna positive sheep imported into Northern Ireland from Great Britain. The work undertaken by the Branch prevented disease entering the province and assured our continued disease-free status.
- Support of DARD strategic plan for eradication of brucellosis. In particular, the Branch staff continue to work closely with DARD Veterinary Service in high risk areas to prevent disease breakdowns. The Branch has also contributed to ongoing investigations of fraud.
- Support of DARD and industry strategic policy for the eradication of Aujeszky's Disease Virus and progression towards achieving EU Annex I status for Northern Ireland in late 2011.
- Ongoing support to DARD and industry for BSE surveillance, including rapid turn-around testing of samples from human consumption cattle and sheep.
- Ongoing support to DARD and industry in demonstrating freedom from disease from important animal and poultry pathogens.

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VIROLOGY



Porcine circovirus-2 Immunofluorescence staining

The work of Virology Branch is aimed at improving the diagnosis and control of viral diseases in avian, bovine, ovine, porcine and aquatic species and to provide the front line emergency response for the diagnosis of major viral disease threats to NI livestock. The Branch has an extensive R&D and international collaboration portfolio with global contacts on viral diseases in animals and aquatic species with a proven track record in diagnostic test and vaccine development. There is an excellent range of skills in virus growth, molecular virology and virus immunology. Within the Virology Branch, the Tissue Culture Unit, Animal Services Unit and Bio-transport advice also support activities within other branches at VSD.

KEY SERVICES AND EXPERTISE

- Epizootic contingency response:- Molecular detection for major viral diseases (e.g bluetongue virus, avian influenza and newcastle disease).
- Fish Disease Unit:- testing of aquatic diseases in fish and shellfish.
- Tissue Culture Unit: support for statutory / commercial diagnostic tests and contract research (including anti-viral and disinfectant testing).
- Animal Services Unit
- Classical virus isolation in tissue culture systems and eggs
- Development of molecular and immunological diagnostic tests.
- Viral pathogenesis, disease modelling and vaccine studies
- Staff expertise in working in containment level 2 and 3 laboratories.

KEY CUSTOMERS / SECTORS

The Virology Branch supplies a key service to DARD as part of its emergency response for epizootic disease threats. Additionally the Virology Branch carries out commercial testing for fish, shellfish and novel poultry viruses along with contracted research for government, commercial and research funding organisations.

KEY ACHIEVEMENTS IN 10-11 YEAR

Promotion of AFBI Business:

The Virology Branch participated in investment trade missions to North America and China to establish commercial and government linkages for future collaborations. Staff from the USA National Animal Disease Center visited VSD in September 2010 and collaborative plans have been established. At the UK Trade & Investment Animal Health Event in China (October 2010) presentations were given in Zhengzhou and at the Harbin Veterinary Research Institute.

International Conference on Pancreas Disease:

The 11th Salmon Pancreas Disease Trination seminar was held at AFBI in March 2011 (over 80 international delegates). This was a highly successful meeting and evolved from research work at VSD on salmon pancreas disease in the 1990s.

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BIOMETRICS & INFORMATION SYSTEMS

Biometrics and Informations Systems Branch (BIS) provides an integrated statistical and IT service in support of AFBI business areas and a range of external customers; also co-ordination of central AFBI services for quality assurance and information management.

KEY SERVICES AND EXPERTISE

Statistical

- design of experiments and surveys;
- analysis, interpretation & reporting of scientific data;
- co-ordination of the ISO9001 quality management system for major AFBI scientific activities and statistical analysis;
- provision of statistical courses.

IT Development

- interactive applications for DARD and the agri-food industry;
- solutions for the efficient and secure management of scientific data;
- management of AFBI Intranet and Internet websites;
- maintenance of the AFBI ISO9001 Quality Management System;
- co-ordination of AFBI responses to FOI requests.

IT Systems

- management and support of AFBI LIMS and GIS;
- compliance with public sector data security and access requirements;
- accreditation of the AFBI IT network to Northern Ireland Civil Service (NICS) standards;
- backup and resilience for key AFBI line-of-business IT systems.

KEY CUSTOMERS / SECTORS

AFBI scientific and business branches
DARD and other Public Sector Organisations and the agri-food industry.

KEY ACHIEVEMENTS IN 10-11 YEAR

Development of various web-based applications notably:

- generic benchmarking under the InvestNI Proof of Concept scheme
- timber production forecasting
- bovine growth rate monitoring tool
- Greenhouse Gas calculator for dairy cattle
- Research Projects integrated with outputs (publications) database
- project reporting incorporating staff and non-staff costs



Support to DARD including:

- Land Parcel Identification for the EU Quality Assessment Framework Exercise
- integration with FSA's Food Surveillance System for animal feeds
- Farm Business Survey and pesticide usage for arable, top fruit, grassland and nursery stock surveys;

Renewal of AFBI IT network accreditation and ISO9001 quality assurance certification

Statistical analyses (250) for AFBI researchers including:

- timing of introduction of freshly calved heifers to the main herd;
- molecular variance of electrophoresis data for chicken intestinal bacteria;
- salmon conservation limits for 7 NI rivers;
- abiotic metrics to define site differences in rivers;
- partial least squares regression on NIR meat tenderness data;
- application of the Bradley Terry model to cattle behaviour data.;

Statistics training to NIEA Water Management Unit

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CROPS, GRASSLAND & ECOLOGY



Winter wheat variety trial at AFBI Crossnacreevy

The branch, located across 3 AFBI centres (Newforge, Crossnacreevy and Loughgall), conducts research into plant breeding, plant testing, horticulture, agronomy, trees, environmentally sensitive farming practices, alternative land uses and diversification options.

KEY SERVICES AND EXPERTISE

- Excellently equipped field stations at Loughgall and Crossnacreevy
- Statutory plant and seed testing facilities
- Plant breeding programmes for ryegrass and potatoes
- Research to support local mushroom and apple industries
- Renewable energy and bioremediation using short rotation coppice
- Agri-environment monitoring, climate change and upland ecological research.
- Recommended lists for cereals, potatoes and ryegrasses.
- Renewable energy cropping and bioremediation
- Industry support directly and through CAFRE.
- Local, national and international research and advice provision across all areas of expertise within the branch

KEY CUSTOMERS / SECTORS

- DARD for research projects, statutory work including agri- environment scheme monitoring and specialist advice
- Commercial crop breeders
- Local mushroom and apple industries
- Local grassland and cereal farmers

- CAFRE advisors
- Other government departments

KEY ACHIEVEMENTS IN 10-11 YEAR

- A new grass, clover and forage maize recommended list committee was instigated as a partnership between DARD, CAFRE senior technologists and AFBI scientists.
- The winter barley and winter wheat variety trials located on a farm near Limavady, funded by the HGCA and one of three of each crop conducted annually in N Ireland by AFBI, were both amongst the top 5 highest-yielding trials harvested across the UK in autumn 2010.
- A further two AFBI-bred forage intermediate tetraploid perennials, Braid and Seagoe, were recently added to Recommended Lists and are now being multiplied for commercial release.
- A commercial agreement was signed between AFBI and Potato Partners (NI) Ltd. to allow the marketing of AFBI-bred potato varieties. The variety portfolio now comprises nine varieties with three more in the process of registration.
- All-island collaborative research between AFBI, Teagasc and Dublin Institute of Technology determined that the transient expression of the "brown" symptom in Mushroom Virus X infected crops is less influenced by adverse agronomic / environmental factors than previously suggested.
- As part of the CAFRE development programme for the cut flower industry and building on the successful apple model, AFBI Loughgall has established a peony research programme.
- The First Minister and Deputy First Minister visited the biomass research programme at Loughgall and commented that the work being undertaken by AFBI is groundbreaking and has the full support of the Executive.
- A 3-year, DARD-funded programme to monitor the NI Countryside Management scheme commenced and branch scientific expertise provided baseline information to the Glenwherry Upland Regeneration Project.

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PLANT HEALTH & ENVIRONMENTAL PROTECTION



Potato blight *Phytophthora infestans*

AFBI's Plant Health and Environmental Protection Branch (PHEP) conducts research into crop protection, plant product analyses and issues arising from the impact of agriculture on the environment.

There is a broad range of scientific expertise aligned with the disciplines of plant pathology, plant physiology, entomology, nematology, microbiology, plant physiology, electron microscopy and molecular biology. Staff members provide statutory and non-statutory disease diagnosis and provision of specialist technical advice to policy-makers, industry and legislators in the area of plant and animal health.

KEY SERVICES AND EXPERTISE

- Agri-environment monitoring for pesticide usage.
- Renewable energy and bioremediation using short rotation coppice.
- Research to enhance plant health status of field and horticultural crops.
- Pest control strategies including predators, parasitoids and insect vectors.
- Abiotic and biotic crop management protocols.
- Development of plant nano-materials for functional applications.

KEY CUSTOMERS / SECTORS

- Statutory testing, R&D and specialist advice for DARD.
- Local agriculture, horticulture and forestry.
- Amenity turf sector – football & golf clubs.
- Food, biomaterials & agrochemical industries.
- Other government departments and CAFRE advisors.

KEY ACHIEVEMENTS IN 10-11 YEAR

Biostimulants: Products derived from plant sources, including seaweed, have been shown to be effective in reducing stress caused by biotic and abiotic factors in crop plants. Such products have considerable potential in an era of increased variability in weather patterns as well as pressure to reduce usage of conventional agrochemicals.

Biomass (INTERREG IVA): Eight partners are working to provide scientific evidence on the effectiveness and sustainability of using SRC willow, for the treatment of organic effluents. Several commercial-size irrigation projects will be established.

Grass biorefining: Products based on grass nanofibres are being developed: nanocomposites, high strength packaging, product for flower arranging and slow-release hydrogel for crop protection.

***Dickeya solani*:** A new highly aggressive blackleg-causing bacterium with the proposed name *Dickeya solani* has been spreading across Europe since 2004. The monitoring programme at AFBI has also successfully halted the spread of *D. solani* into N. Ireland by detecting the pathogen in latently infected seed.

Pesticide usage: AFBI continues to monitor pesticide usage for the UK Chemicals Regulation Directorate. Current surveys include arable and soft fruit crops with additional surveys planned for vegetable and mushroom crops in 2011.

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AGRICULTURE



Sheep at AFBI Hillsborough

The principal focus of Agriculture Branch is scientific research to underpin sustainable livestock production and further develop land-based renewable energy systems. Work is conducted mostly at the 310-hectare AFBI Hillsborough farm with specialised experimental facilities that include the Environment and Renewable Energy Centre (EREC).

Research trials on commercial farms are also undertaken, helping develop and sustain interest amongst producers and promoting the timely uptake of valuable research findings by the industry.

Agriculture branch conducts collaborative research with colleagues in other AFBI branches to address cross-cutting agri-environmental themes targeted mostly at reducing environmental effects of animal and crop agriculture, especially the greenhouse gas (GHG) emissions that impact upon climate change. The Branch is a prominent partner in publicly-funded research on agricultural GHG emissions within the UK and Europe. Collaborative research extends also to matters relating to animal health, food quality, soil chemistry and alternative crops.

KEY SERVICES AND EXPERTISE

- Extensive facilities and expertise in designing and conducting scientific investigations of sustainable livestock production
- Evaluation of biomass and bio-fuel crops, anaerobic digestion and other renewable energy technologies (within the EREC)
- Research is quality assured and certified by ISO 9001:2008
- Branch laboratory accredited for analysis of commercial feed and forage samples
- Sound scientific evidence for policy decisions on agriculture and the environment

KEY CUSTOMERS / SECTORS

- Local, national and international government departments and agencies
- Non-governmental funding organisations
- Local agri-food producers and national and international commercial companies

KEY ACHIEVEMENTS IN 10-11 YEAR

The Branch is a research provider to organisations that won three DARD Research Challenge Fund contracts for projects addressing dairy, beef and pig production issues. It continues to be a major contributor to two DEFRA research contracts to expand and enhance the UK national inventory for greenhouse gas emission factors from livestock. In addition, thirteen R&D proposals, covering the four strategic goals of the DARD 2011-2012 Evidence and Innovation Programme, were submitted.

Significant events at Hillsborough included an Open Day focusing on biomass crops (eg. Miscanthus, Paulownia and willow) for renewable energy, and two Agrisearch-sponsored seminars covering dairy genetics, heifer management and the sustainability of dairying in Northern Ireland. A pig research seminar was run with Pig Regen Ltd at CAFRE (Loughry Campus).

Staff published 21 peer-reviewed scientific papers, made 42 conference presentations, produced 43 press articles and hosted a large number of local and international visiting groups

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AGRI-ENVIRONMENT

Environmental research in the Agri-Environment Branch (AEB) addresses land and nutrient management issues to make appropriate and efficient use of resources, while protecting the environment. The integrated research effort covers the impact of nutrients used by agriculture on air, soil and water quality.

KEY SERVICES AND EXPERTISE

- Monitoring eutrophication of surface waters in Northern Ireland and apportioning the contribution of agriculture to nitrogen and phosphorus losses.
- Defining water quality targets in catchment studies.
- Improving nutrient management and soil fertility within intensive grassland based systems.
- Expertise in land use modelling using geographic information systems (GIS) and assessing temporal trends in soil fertility.
- Expertise in stable isotopes (^{15}N) to investigate nitrogen transformations in soils to lead to improved fertiliser and manure management.
- Evaluating management options to lower greenhouse gas emissions (nitrous oxide) from fertilisers and soil.
- Evaluating the long-term effects of organic manures on soils.

Part of a UK long-term ecosystem monitoring and research network (Environmental Change Network) designed for the detection, interpretation and prediction of long-term environmental change, in order to help mitigate and adapt to climate change.

KEY CUSTOMERS / SECTORS

Research within the Branch is primarily undertaken for the Department of Agriculture and Rural Development (DARD) and other government organisations to provide a sound, scientific basis for government policy on agriculture and the environment. The objectives of the research are strongly influenced by legislation, both national and by EC directives, adherence to which is critical to maintaining national and international markets for Northern Ireland produce.

KEY ACHIEVEMENTS IN 10-11 YEAR

- Key research programmes on nitrogen, phosphorus, soil quality and nutrient management, were progressed through 17 DARD-funded research projects and 20 external research contracts.



Lough Melvin

- Played a central role in the recent Land Parcel Information System (LPIS) Quality Assessment Framework process which enabled DARD to meet the EU reporting deadlines.
- Provided important scientific advice to government in Northern Ireland on issues relating to minimising environmental risks from winter storage of field heaps of poultry litter, nutrient balances in agriculture, climate change and eutrophication.
- Lead partner in an INTERREG IVA programme (DOLMANT) to develop ecological lake management tools to help Northern Ireland meet its commitments under the Nitrates Directive and Water Framework Directive, especially in relation to cross-border shared aquatic resources.
- Initiated DEFRA contracts to improve the UK inventory of greenhouse gas emissions from agriculture, in association with AFBI colleagues and UK collaborators.
- Continued our academic link with China with invited visits to the Institute of Soil Science, Chinese Academy of Sciences in Nanjing and China Agricultural University in Beijing.
- Maintained international collaboration with institutes in Germany, Czech Republic, USA and Ireland.

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FISHERIES & AQUATIC ECOSYSTEMS

AFBI's Fisheries and Aquatic Ecosystems Branch (FAEB), carries out R&D, monitoring and technology transfer, supporting the sustainable management of fisheries and aquatic resources in Northern Ireland.

The Branch undertakes work centred on four main themes, these being marine fisheries stock assessment, ecosystem health, coastal zone science and freshwater fisheries/catchment management.

KEY SERVICES AND EXPERTISE

FAEB scientists are experts in a wide range of fields, including fish population dynamics, ecosystem structure and function, environmental monitoring and benthic ecology.

- Laboratory facilities/services include marine chemistry analyses, fish ageing, phytoplankton identification and molecular ecology.
- A 53m research vessel (R.V. Corystes) is equipped with state of the art technology, including multibeam sonar for seabed mapping, together with a range of specialised fish survey equipment and a sophisticated Remotely Operated Vehicle (ROV).
- A network of strategically placed environmental sensing moorings provides real-time remote monitoring of environmental conditions in our sea loughs and adjacent seas.
- Freshwater fisheries teams have the capability to assess fish stocks in any of Northern Ireland's lakes and rivers. FAEB is available to respond to freshwater pollution incidents.

KEY CUSTOMERS / SECTORS

Our customer base is particularly wide, comprising:

- Local, national and European governments
- Local and international fishery agencies and organisations.
- Stakeholders (including the fishing industry).
- Angling associations, local authorities and the private sector.

KEY ACHIEVEMENTS IN 10-11 YEAR

- Marine fisheries continued to address the core stock assessment programme, complemented by a well focussed R&D programme in support of policy formulation, aimed at improving the state of stocks and their environment. These include herring surveys, carried out in partnership with the fishing industry, and the completion of a 5-year egg production survey programme in collaboration with the Centre for



RV Corystes berthed in Port of Belfast

Environment, Fisheries and Aquaculture Science (CEFAS), both of which will contribute to future sustainability of Irish Sea fisheries

- Key scientific evidence was provided to Department of Culture, Arts and Leisure (DCAL), in support of policy development for managing commercial salmon and eel fisheries.
- A State of the Seas report was produced by AFBI and Northern Ireland Environment Agency (NIEA), providing the first ever integrated assessment of the ecological status of the seas around Northern Ireland. This report was launched jointly by DARD and Department of Environment (DOE) Ministers.
- A new technique linking sea bed mapping technology to seed mussel stock assessment was successfully trialled and applied. This will underpin regulations for the harvest of wild seed mussel.

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FOOD CHEMISTRY



Buthaina Abdullah Mohammed Al-Haddabi, Royal Court Affairs Government Laboratory, Sultanate of Oman with FCB trainers

Food Chemistry Branch provides innovative research and development, analytical and diagnostic services, specialist advice and an emergency response capacity in the areas of the chemical, functional and nutritional quality of food, and chemical contaminants of food and the environment in Northern Ireland. All research is certified under ISO 9001:2008 and statutory and analytical services are quality assured under ISO 17205: 2005.

KEY SERVICES AND EXPERTISE

- Specialist expertise in meat and dairy science and technology, flavour chemistry, sensory evaluation, nutritional properties of food, and chemical and radionuclide contaminants in food and the environment.
- PhD supervision and provision of specialist training.

KEY CUSTOMERS / SECTORS

- Scientific research and analyses are funded and conducted in support of Northern Ireland government departments, other national government funding bodies, industry and others in the UK, Republic of Ireland and overseas. Studies are conducted especially for the red meat, poultry and dairy industries, and also for horticultural and other food industries.
- As well as fulfilling the statutory obligations placed on Department of Agriculture and rural Development (DARD) by EU and national legislation, Food Chemistry Branch provides an emergency response capability to DARD and other government organisations. Food Chemistry Branch also provides evidenced-based scientific

advice on food quality and contamination issues to government policy makers, regulators and industry.

KEY ACHIEVEMENTS IN 10-11 YEAR

- A DARD-funded project highlighted the seasonal impact of clover-based forage systems in NI on the proportion of n-3 fatty acids and conjugated linoleic acid (CLA, a beneficial fatty acid) in dairy milk fat.
- Increasing commercially funded research has contributed to industry's knowledge of factors affecting eating quality of beef, lamb, pork and poultry meat, the nutritional quality of meat and dairy products, and the flavour of mushrooms.
- A government scientist from the Sultanate of Oman was the first trainee for a new intensive analytical food chemistry course. A PhD student from Texas Technical University was trained on beef flavour volatile measurement techniques as part of a joint research project funded by Meat and Livestock Australia. Dr Linda Farmer was invited to speak at a conference on prediction of beef palatability in Jeju, South Korea. Scientists from the Chinese Academy of Agricultural Sciences in Shanghai visited AFBI during October 2010 to identify common areas for research, a visit reciprocated by Dr Bruce Moss in December 2010.

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FOOD MICROBIOLOGY



Molecular identifications of food borne pathogens

The aim of the Food Microbiology Branch is to help increase the competitiveness of the agri-food industry through the provision of innovative research, analytical and diagnostic services and specialist advice of the highest quality and value. The Branch is the UK National Reference Laboratory for milk and dairy products and is also the Northern Ireland Reference Laboratory for animal protein testing for the presence of *Salmonella* spp.

KEY SERVICES AND EXPERTISE

- Analytical services include statutory testing of food, water and animal feed to comply with Northern Ireland and EU food safety and hygiene legislation. Most of these services are accredited to ISO 17205:2005.
- Expertise in monitoring hygiene of meat processing plants.
- Expertise in novel food processing methods, especially the use of high hydrostatic pressure.

Research is focussed on (i) the isolation, identification and typing of foodborne pathogens such as *Campylobacter*, *Mycobacterium avium* subsp. *paratuberculosis*, *Mycobacterium bovis*, *Salmonella* spp., pathogenic *E. coli*, *Listeria* spp. and *Clostridium botulinum* and (ii) survival and growth of pathogens in food processing environments. All research is accredited to ISO 9001:2008.

Specialist facilities include:

- High pressure processing facility available for product development work and as a Toll service for industry.
- Containment level 3 laboratory.

KEY CUSTOMERS / SECTORS

- The main customer for the statutory testing services is government.
- Surveys on the microbiological safety of foods are undertaken on an all-island basis on behalf of other public bodies.
- Confidential contracts, using specialist Branch expertise and services, are conducted on behalf of industry (local, national and international). In 2010-11 these included contracts with clients from the dairy, meat, poultry, seafood, fruit and vegetable sectors.

KEY ACHIEVEMENTS IN 10-11 YEAR

- New contracts focussed on pathogens such as *Campylobacter* and *Salmonella* in the agri-food environment were initiated, with funding from various organisations including DARD, the Food Standards Agency, SafeFood and industry.
- Work is ongoing to improve hygiene within the NI, GB and Irish primary meat production industries.
- Twenty three different companies used the high pressure facility, processing over 30 different foods. Research into the microbiological quality of pressure-treated foods complements the commercial work done with industry.
- Research is continuing on the survival kinetics of *Mycobacterium bovis* and *M. avium* subsp. *paratuberculosis* during the manufacture and ripening of raw and pasteurised milk cheeses. These projects are funded by the FSA and the EU.

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AGRICULTURAL & FOOD ECONOMICS



Rural Northern Ireland

The Agricultural and Food Economics (AFE) Branch has an established reputation for providing high quality research and knowledge transfer that is recognised regionally, nationally and internationally. AFE undertakes strategic and applied socio-economic research that provides rigorous evidence to underpin decision making in the policy, NGO and private sectors.

KEY SERVICES AND EXPERTISE

AFE expertise covers a wide range of socio-economic issues and 'state of the art' economic modelling techniques:

- Bio-economic farm business models - identifying optimal farm business strategies;
- Non-market valuation methods - exploring preferences for environmental and other public goods;
- Household decision making econometric models - exploring labour supply, time use and human capital investment;
- Input-output and computable general equilibrium models - evaluating linkages between economic sectors and between the economy and environment;
- Partial equilibrium models - evaluating the sectoral impact of agri-food policy reforms.
- AFE also has a long standing research partnership with the University of Missouri, and has developed research links with the Chinese Academy of Agricultural Sciences.

KEY CUSTOMERS / SECTORS

In 2010-11 the main customers for AFE research were the four UK Agricultural Administrations: DARD; Defra; SEERAD, Scotland; and WAG, Wales. Work was also undertaken for AgriSearch. AFE

research covers the main livestock, arable, and liquid biofuel sectors as well as the rural environment and rural society.

KEY ACHIEVEMENTS IN 10-11 YEAR

- Policy analysis on the impact of: volatile world agricultural prices on EU and UK agriculture; and biofuels usage in road transport on the liquid biofuels and agricultural sectors in the UK.
- Incorporation of a Greenhouse Gas (GHG) sub-model within a sectoral microeconomic model of UK agriculture, enabling the GHG emissions associated with different policy regimes to be quantified.
- Address to the OECD Committee for Agriculture, Paris on 'Accessible Knowledge Transfer in Agri-Food and Rural Resource Economics'.
- Presentation and written submissions to the House of Commons Environment, Food and Rural Affairs Committee on 'The Common Agricultural Policy after 2013'.
- 'Rural Northern Ireland: Context, Challenges & Opportunities', chapter published in Draft Rural White Paper Action Plan.
- Final Report to AgriSearch on 'Robust Milk Production Systems for Northern Ireland'.
- Quantification of the multiplier effects of agricultural support policies on the wider economy of Northern Ireland.
- A structural analysis of greenhouse gas emissions within the food-supply chain of Northern Ireland.

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ACCOUNTS



Remuneration Report

Chairman and Board Members

The Chairman is appointed for a fixed period of four years, the Deputy Chair for three years and the Board members are appointed for a fixed period of two or three years. Thereafter they are re-appointed in accordance with the Code of Practice.

The remuneration of the Board is set by DARD. Increases are calculated in line with the recommendations of the Senior Salaries Review Body. There are no arrangements in place for the payment of a bonus. Neither the Chairman nor any Board Member receives pension contribution from AFBI or DARD. AFBI reimburses the Chairman and Board members for any incidental expenses incurred for carrying out their duties relevant to the organisation.

Details of remuneration of the Chairman and Board Members

In 2010/2011, the remuneration of the members of the Board was as shown below.

| | 2010/11 | | 2009/10 | |
|-------------------------|---------------------|-------------------|---------------------|-------------------|
| | Salary | Benefits in kind | Salary | Benefits |
| | (to nearest £1,000) | (to nearest £100) | (to nearest £1,000) | (to nearest £100) |
| Mr Seán Hogan, Chairman | 25 | - | 25 | - |
| Prof. David McDowell | 10 | - | 10 | - |
| Mr Kieran Campbell | 5 | - | 6 | - |
| Dr Michael Hollywood | 6 | - | 5 | - |
| Dr Christine Kennedy | - | - | 4 | - |
| Mr Nicholas Mack | - | - | 4 | - |
| Prof. Grace Mulcahy | 4 | - | 4 | - |
| Mr John McKinley | - | - | 4 | - |
| Prof. Stewart McNulty | 4 | - | 4 | - |
| Mr Jim Noble | 5 | - | 4 | - |
| Mr John Rankin | 5 | - | 5 | - |
| Mr Michael Walker | 4 | - | 4 | - |
| Mr Trevor Hinds | 6 | - | - | - |
| Mr Seamus McCaffrey | 4 | - | - | - |
| Mr Alan McKeown | 5 | - | - | - |
| Mrs Hilda Stewart | 4 | - | - | - |

The following members completed their term of office on 31 March 2010:

Mr Seán Hogan
Mr Kieran Campbell
Dr Michael Hollywood
Dr Christine Kennedy
Mr Nicholas Mack
Mr John McKinley

The DARD Minister announced the re-appointment of Mr Seán Hogan for a further four-year term and the re-appointment of Mr Kieran Campbell and Dr Michael Hollywood for a further one-year period.

The DARD Minister announced the appointment of Mr Trevor Hinds, Mr Seamus McCaffrey, Mr Alan McKeown and Mrs Hilda Stewart for a four-year term from 1 April 2010 and Mrs Hilary McCartan and Mr Bob McCann for a four-year term from 24 March 2011.

The following members completed their term of office on 31 March 2011:

Mr Kieran Campbell
Dr Michael Hollywood

Sub-committees of the Board

The following sub-committees continued to operate during the year:

Audit Committee

| | |
|--------------------------------|--------|
| Dr Michael Hollywood, Chairman | £1,251 |
| Mr Kieran Campbell | £1,251 |
| Mr John Rankin | £1,251 |

The Audit Committee advises the Board and Accounting Officer on the issues of risk, internal control, governance and any material items affecting the accounts.

Remuneration Committee

| | |
|---------------------------------|------|
| Prof. David McDowell, Chairman* | - |
| Mr Kieran Campbell | £313 |
| Mr Trevor Hinds | £626 |

* Prof David McDowell, Chairman does not receive any remuneration for chairing the meetings of the Remuneration Committee.

The role of the Remuneration Committee is to advise the AFBI Board in respect of the remuneration of members of the Senior Management Team (SMT) and to provide recommendations to the Board on the implementation of AFBI's Rewards to Staff incentivisation scheme. Whilst the terms and conditions of employment and remuneration of all AFBI employees are in accordance with the overall terms and conditions of the NICS, as described above, any proposed changes to the overall framework are also subject to review and scrutiny by this Committee.

Business Development and Marketing Strategy Committee

| | |
|----------------------|------|
| Dr Michael Hollywood | £626 |
| Mr James Noble | £939 |
| Mr Alan McKeown | £939 |

The role of the Business and Marketing Strategy Committee is to support the Executive in developing a three-year Marketing and Business Development Strategy.

AFBI Board Strategy Sub-Committee

Mr Michael Walker

No payment as same day as Board meeting.

Prof Stewart McNulty

No payment as same day as Board meeting.

Mr Kieran Campbell

No payment as same day as Board meeting.

The role of the AFBI Board Strategy Sub-Committee is to assist the Executive in developing a Science Strategy for AFBI. In particular, to:

- Identify and prioritise areas of existing scientific work which are of strategic importance to AFBI
- Identify and prioritise areas of existing scientific work which are of lower strategic importance to AFBI and which could therefore be reduced or ceased in order to transfer resources to work of higher priority.

CEO Appointment

Mr Trevor Hinds

£1,878

Mr Hinds was a member of the CEO appointment panel and as such attended several meetings and sat on the interview panel

Chief Executive and Senior Management Team

Remuneration Policy

At present, the remuneration of the Chief Executive Officer and the Deputy Chief Executive Officers is set in accordance with the Senior Civil Service (SCS) in Northern Ireland which, in turn, is set by the Prime Minister following independent advice from the Review Body on Senior Salaries. The pay award for staff in the Senior Civil Service is comprised of two elements – a base pay uplift and a non-consolidated bonus, both of which are entirely performance based.

At present, the remuneration of the Acting Head of the Business Support Unit is set in accordance with the pay award negotiated with the trade unions for all non-industrial staff in the Northern Ireland Civil Service.

Service contracts

Appointments in AFBI are made in accordance with the Civil Service Commissioners' Recruitment code which requires appointments to be made on merit on the basis of fair and open competition but also includes the circumstances when appointments may otherwise be made. Policy relating to notice periods and termination payments is contained in the Northern Ireland Civil Service (NICS) Staff Handbook.

Duration of notice periods

At present, recruits or promotees to the analogous Senior Civil Service posts in AFBI are required to give three months notice of resignation. The Institute reserves the right to introduce a longer period of notice for individual posts up to a maximum of six months and incumbents will be notified accordingly. This may be likely where the recruitment of the replacement is likely to be a protracted process.

At the time of resignation, the Institute may, by agreement with the member of staff concerned, agree to waive the required notice.

Where the Institute is of the opinion that the appointee is unfit to continue in post or is incapable of adequately performing the duties of the post, it can terminate the appointment with due notice as per the NICS Staff Handbook/Terms and Conditions.

Termination payments

If for any reason other than disciplinary dismissal, the minimum period of notice cannot be given, the member of staff will receive compensation in lieu of the unexpired period of notice. Compensation is not payable when the date of leaving is mutually agreed, for example, in cases of flexible early retirement, approved early retirement, voluntary redundancy or where staff resigns before the end of the notice period.

Salary and Pension Entitlements

The following sections provide details of the remuneration and pension interests of the Senior Management Team of the Institute.

(a) Remuneration (Audited)

| | 2010/2011 | | 2009/2010 | |
|---|---|--|--|--|
| | Salary (to the nearest £1,000) | Benefits in kind (to the nearest £1,000) | Salary (to the nearest £1,000) | Benefits in kind (to the nearest £1,000) |
| Dr S G McIlroy, CEO ¹ | 0 - 5 | - | 80 - 85 | - |
| Dr M Camlin, DCEO ² | 50 - 55 | - | 75 - 80 | - |
| Dr S Neill, DCEO ³ | 5 - 10 | - | 40 - 45 | - |
| Prof S Kennedy, CEO (Acting) ⁴ | 80 - 85 | - | 75 - 80 | - |
| Dr A Gilmour DCEO (Acting) | 70 - 75 | - | 70 - 75 | - |
| Dr D Bryson DCEO (Acting) | 70 - 75 | - | 40 - 45 (70 - 75 fully equivalent) | - |
| Mr Joel Ferguson Head of BSU (Acting) | 55 - 60 | - | 10 - 15 (fully equivalent 50 - 55) | - |

¹ Dr George McIlroy was absent on long term sick leave from 30 November 2009. He subsequently retired on medical grounds on 19 April 2010.

² Dr Camlin took partial retirement on 31 August 2010.

³ Dr Neill was ill-health retired on 31 May 2010.

⁴ Professor Seamus Kennedy was acting Chief Executive Officer and Accounting Officer from 16 December 2009 to 16 January 2011. He was appointed Chief Executive Officer and Accounting Officer on 17 January 2011.

Salary:

Salary includes gross salary; performance pay or bonuses and any allowance that is subject to UK taxation. This report is based on payments made by the Institute and thus recorded in the accounts.

Benefits in kind:

The monetary value of benefits in kind covers any benefits provided by the employer and treated by the Inland Revenue as a taxable emolument.

(b) Pensions (Audited)

| Name | Real increase in pension | Real increase in lump sum | Pension at end date | Lump sum at end date | CETV at start date | CETV at end date | Employee contribs. and transfers in | Real increase in CETV funded by employer |
|---------------|--------------------------|---------------------------|---------------------|----------------------|--------------------|------------------|-------------------------------------|--|
| | To nearest £'000 | | | | To nearest £'000 | | To nearest £ | To nearest £'000 |
| Dr G McIlroy | (0-2.5) | (0-2.5) | 20-25 | 60-65 | 482 | 472 | 1869 | (20) |
| Dr M Camlin* | (40-42.5) | (122.5-125) | 30-35 | 205-210 | 905 | 6 | 757 | (921) |
| Dr S Neill** | (0-2.5) | 12.5-15 | 35-40 | 125-130 | 846 | 845 | 7 | (10) |
| Dr S Kennedy | (0-2.5) | (2.5-5) | 25-30 | 80-85 | 541 | 550 | 1083 | (33) |
| Dr A Gilmour | (0-2.5) | (0-2.5) | 30-35 | 95-100 | 718 | 733 | 1062 | (2) |
| Dr D Bryson | 0-2.5 | 2.5-5 | 30-35 | 95-100 | 685 | 760 | 1062 | 21 |
| Mr J Ferguson | 0-2.5 | - | 0-5 | - | 15 | 25 | 1950 | 7 |

Notes:

Figures in brackets are negative.

*Dr Camlin took partial retirement on 31/08/2010 and figures reflect this including some commutation of pension for a higher lump sum.

**Dr Neill was ill-health retired 31/05/2010 and commuted some pension for a higher lump sum.

There were some discrepancies from last year due to Civil Service Pensions not having an interface and accepting salaries at end date as the pensionable pay which was not necessarily the case. This year's figures are now correct. This along with the change from Retail Prices Index (RPI) to the Consumer Price Index (CPI) as the measure used to update Civil Service pensions explains for the most part the negative 'real increases' in pensions, lump sums and CETV.

During the year, three individuals left on ill-health grounds; the accruing superannuation liabilities amount to £11,660.

Accrued pension and lump sum as at 31 March 11

This is the pension the individual would receive if 31 March 11 were their last day of service. If the individual is in premium or nuvos then they will not receive an automatic lump sum and therefore there is no lump sum to disclose. The accrued pension and lump sum includes any benefits that have accrued from the individual buying added years, added pension or transferring in benefits from another scheme. If a member has a preserved award from a previous NI Civil Service employment, this is included in the calculations.

Real increase in pension and lump sum

This is the increase in the value of the pension over the year taking account of inflation.

Members of premium and nuvos do not automatically receive a lump sum and so there is no disclosure in respect of this.

Members of classic and classic plus receive an automatic lump sum and this has been disclosed.

Cash Equivalent Transfer Values (CETV)

A Cash Equivalent Transfer Value (CETV) is the actuarially assessed capitalised value of the pension scheme benefits accrued by a member at a particular point in time. The benefits valued are the member's accrued benefits and any contingent spouse's pension payable from the scheme. A CETV is a payment made by a pension scheme or arrangement to secure pension benefits in another pension scheme or arrangement when the member leaves a scheme and chooses to transfer the benefits accrued in their former scheme. The pension figures shown relate to the benefits that the individual has accrued as a consequence of their total membership of the pension scheme, not just their service in a senior capacity to which disclosure applies.

The CETV figures include the value of any pension benefit in another scheme or arrangement which the individual has transferred to the Civil Service pension arrangements. They also include any additional pension benefit accrued to the member as a result of their purchasing additional pension benefits at their own cost. CETVs are calculated within the guidelines and framework prescribed by the Institute and Faculty of Actuaries and do not take account of any actual or potential reduction to benefits resulting from Lifetime Allowance Tax which may be due when pension benefits are drawn.

The actuarial factors used in calculating CETVs were changed during 2010, due to changes in demographic assumptions and the move from the Retail Prices Index (RPI) to the Consumer Prices Index (CPI) as the measure used to update Civil Services pensions. As a result the CETV in this years report for 31/3/10 will not be the same as the corresponding figures shown in last year's report.

Real increase in CETV

This reflects the increase in CETV effectively funded by the employer. It does not include the increase in accrued pension due to inflation, contributions paid by the employee (including the value of any benefits transferred from another pension scheme or arrangement) and uses common market valuation factors for the start and end of the period.

Civil Service Pensions

Pension benefits are provided through the Civil Service pension arrangements. From 1 October 2002, civil servants may be in one of three statutory based 'final salary' defined benefit schemes (Classic, Premium and Classic Plus). The schemes are unfunded with the cost of benefits met by monies voted by Northern Ireland Assembly each year. Pensions payable under Classic, Premium and Classic Plus are increased annually with changes in the Retail Price Index. New entrants after 1 October 2002 may choose between membership of premium or joining a good quality 'money purchase' stakeholder arrangement with a significant employer contribution (partnership pension account).

Employee contributions are set at the rate of 1.5% of pensionable earnings for Classic and 3.5% for Premium and Classic Plus. Benefits in Classic accrue at the rate of 1/80th of pensionable salary for each year of service. In addition, a lump sum equivalent to three years' pension is payable on retirement. For Premium, benefits accrue at the rate of 1/60th of final pensionable salary for each year of service. Unlike Classic there is no automatic lump sum (but members may give up (commute) some of their pension to provide a lump sum). Classic Plus is essentially a variation of Premium, but with benefits in respect of service before 1 October 2002 calculated broadly in the same way as in Classic.

The Partnership Pension account is a stakeholder pension arrangement. The employer makes a basic contribution of between 3.5% and 12.5%, depending on the age of the member, into a stakeholder pension product chosen by the employee from a selection of approved products. The employee does not have to contribute but where they do make contributions, the employer will match this up to a limit of 3% of pensionable salary in addition to the employer's basic contribution. Employers also contribute a further 0.8% of pensionable salary to cover the cost of centrally- provided risk benefit cover (death in service and ill health retirement). Further details about the Civil Service pension arrangements can be found at the website: www.civilservicepensions-ni.gov.uk

The Institute's accounting policy in respect of pensions is at Note 1 to the accounts.



Professor Seamus Kennedy MVB PhD MRCVS FRCPath
Chief Executive and Accounting Officer

Date: 25 January 2012

Statement on Internal Control

Scope of responsibility

As Accounting Officer, I have responsibility for maintaining a sound system of internal control that supports the achievement of AFBI's policies, aims and objectives as approved by the Institute's Minister. I am personally responsible for safeguarding public funds and the Institute's assets in accordance with the responsibilities assigned to me in Managing Public Money Northern Ireland.

The accountability arrangements within AFBI encompass stewardship, performance and compliance. Monthly Management Team and AFBI Board meetings, together with quarterly Audit Committee and Risk Management Control Group meetings, support my role as Accounting Officer.

The purpose of the system of internal control

The system of internal control is designed to manage risk to a reasonable level rather than to eliminate all risk of failure to achieve policies, aims and objectives; it can therefore only provide reasonable and not absolute assurance of effectiveness.

The system of internal control is based on an ongoing process designed:

- to identify the principal risks to the achievement of Institute policies, aims and objectives;
- to evaluate the likelihood of these risks being realised;
- to assess the potential impact should they be realised; and
- to manage them efficiently, effectively and economically.

The system of internal control has been in place for the year ended 31 March 2011 and up to the date of approval of the annual report and accounts, and accords with Department of Finance and Personnel guidance.

Capacity to handle risk

I have put appropriate procedures in place to ensure that the Institute has identified its objectives and risks and determined a control strategy for each of the significant risks. Risk ownership has been allocated to staff at the appropriate level where it is controllable and the Institute has set out its attitude to the risk to the achievement of its objectives. The Senior Management Team has ensured that procedures are in place for verifying that risk management and internal control are regularly reviewed and reported on and these activities are appropriately linked to the corporate planning and decision making process. There is a clear chain of accountability linking the senior Heads of Branch in the Divisions, the Deputy Chief Executives and myself. In formal meetings between DARD and AFBI, cross-cutting risks of both organisations have been identified. The Internal Audit teams of both DARD and AFBI have periodically carried out audits on the management of risk.

The Risk management Strategy has been made available to all staff for guidance on the AFBI intranet and internet sites. This document sets out the necessary organisational roles and responsibilities, along with a framework of the underlying principles of the control system.

The risk and control framework

AFBI Internal Auditor's operate to standards defined in the Government Internal Audit Manual. Annually, the AFBI Head of Internal Audit provides me with a report on internal audit activity in the Institute. The report includes the Head of Internal Audit's independent opinion on the adequacy and effectiveness of the Institute's system of internal control with recommendations for improvement.

A Risk Management Control Group, consisting of the Senior Management Team and Divisional Risk Co-ordinators has been set up, and meets quarterly to review all risks and to ensure compatibility between the Corporate Risk Register and the divisional risk registers.

The Chair of the Audit Committee reports to the AFBI Board at the monthly Board meeting subsequent to the meeting of the Audit Committee. The Audit Committee meets and reviews the Corporate Risk Register four times in a year. If there is any significant change to an existing risk or if a new risk were to arise in the intervening period, I would bring this to the attention of the AFBI Board at the earliest opportunity.

AFBI maintains a Corporate Risk Register and the responsibility for the maintenance of this register lies with the risk co-ordinator. The generic areas which are reviewed include funding, procurement, human resource and operational issues. The format of the register is also reviewed and, when necessary, changes are made for more comprehensive and improved presentation and this is also presented to the AFBI Board for its approval. A key component of the management of risk within AFBI is the role of the Deputy Chief Executive Officers. They hold regular meetings with their divisional management teams to review and assess risk management within the divisions and any material changes to the status of any risk is brought to the attention of the AFBI Audit Committee through the Risk Management Control Group and ultimately the AFBI Board for their approval. Risk management is a standing item at the monthly Senior Management Team and AFBI Board meetings.

The business planning process, and individual project planning processes, takes account of risks to the achievement of objectives and these risks are recorded in the appropriate risk register with mitigating and additional management actions allocated to a responsible officer.

Each of the Deputy Chief Executives prepares a stewardship statement, twice a year, providing assurances to the CEO in support of the Statement on Internal Control. These statements give assurances that the necessary controls are in place in each of the business divisions.

As the AFBI Senior Information Risk Owner, I have received assurances from the Senior Responsible Owner (AFBI Head of IT) that adequate controls and measures are in place to enable AFBI's information systems to withstand threats to their confidentiality, integrity and availability. The Senior Responsible Owner has based his statement on the assurances received by him from the AFBI IT Security Officer (Head of IT Infrastructure and Support) in relation to IT security accreditation and where IT legislative compliance is concerned he has depended on AFBI Data Protection Officer & Freedom of Information Coordinator.

Review of Effectiveness

As Accounting Officer, I have responsibility for reviewing the effectiveness of the system of internal control. My review of the effectiveness of the system of internal control is informed by the work of the internal auditors, the executive managers within the Institute who have responsibility for the development and maintenance of the internal control framework, and comments made by the external auditors in their management letter. I have been advised on the implications of the result of my review of the effectiveness of the system of internal control by the Management Board and by the Audit Committee and a plan to address weaknesses and ensure continuous improvement of the system is in place.

The Head of Internal Audit has provided me with a report on internal audit activity within the Institute during the year and an annual assurance statement. This indicates that, while overall a satisfactory system of governance, risk management and internal control is in place, there are areas for improvement. The Head of Internal Audit states that his opinion is based upon both the direct audit work performed in 2010-2011 and an evaluation of the adequacy of the Institute's risk management process.

To enable me to complete this Statement of Internal Control I have also drawn on assurances received from the Head of Internal Audit in the Department of Finance and Personnel on the various components of Enterprise Shared Services including Account NI which was responsible for the Institute's transaction processing arrangements, HR Connect which is responsible for the Institute's human resource management arrangements and IT Assist which is responsible for providing IT support services in the Institute.

Account NI

During 2010/11 DFP Internal Audit conducted nine risk based systems audits and six follow-ups to previous audit reports. DFP Internal Audit provided satisfactory assurance in eight audits and substantial assurance in one area. Account NI management has positively accepted, and made timely progress to implement, all recommendations made by Internal Audit.

HR Connect

The 2009/10 DFP Annual Assurance Report provided limited assurance on HR Connect. The contractor provided positive responses to all recommendations made and although some of these involved change requests, HR Connect has taken positive steps towards full implementation of all recommendations made. DFP Internal Audit conducted five risk-based audits in HR Connect during 2010/11 and provided satisfactory assurance ratings in all areas. In the 2009/10 inter-departmental assurance, DFP Internal Audit commented on issues of concern within Worklist Access. A further review in this area was subsequently completed and a satisfactory assurance rating has been provided.

ITAssist

The two planned audits of Network NI - Management of Active Directory and Firewall Configuration and Rules Set were merged into one review. DFP Internal Audit has completed the fieldwork on this review and has provided a satisfactory assurance. As part of the initial scoping of the audit and in considering assurance mapping, DFP Internal Audit has reviewed the assurances provided by the Independent IT Health Check (ITHC) performed on IT Assist in both 2009 and 2010 and the Microsoft Risk Assessment Programmes (RAP) performed over the Domain Controllers for Active Directory. DFP Internal Audit is satisfied that the results of these tests and the implementation of recommendations contained have contributed to strengthen the overall control framework.

Significant Internal Control issues


During the period the AFBI Head of Internal Audit gave a limited assurance in relation to the following reports.

- Payroll, pensions and travel expenses (report issued 5 May 2011)
- Human Resource management (report issued 5 May 2011)
- Review of supplier risk (report issued 17 June 2011)

The following specific areas of concern were highlighted:

1. The need to strengthen the management controls in relation to AFBI's payroll and HR systems.
2. The need to provide absence management training to line managers and the need to ensure that absence management procedures and processes are fully embedded and consistently applied throughout AFBI.
3. The requirement to undertake a comprehensive review of AFBI's procedures in relation to the timely and accurate updating of its contracts register.

I have agreed action plans and associated timetables with the responsible officers to rectify these weaknesses. I monitor the implementation timetables which are subject to follow up reviews by Internal Audit and reported through SMT to the Audit Committee. I am pleased to report that a follow-up review by the Head of Internal Audit on implementation of recommendations in his "Payroll, Pensions and Travel Expenses" report has identified that good progress is being made against a range of the audit recommendations. Plans are in place to implement all the agreed recommendations in the course of the coming year.


Professor Seamus Kennedy MVB PhD MRCVS FRCPath
Chief Executive Officer

Dated 25 January 2012

Statement of Accounting Officer's Responsibilities

Under the Agriculture (Northern Ireland) Order 2004, the Institute is required to prepare for each financial year, a statement of accounts detailing the resources acquired, held, or disposed off during the year and the use of resources by the Institute during the year.

The statement of accounts is prepared on an accruals basis and must give a true and fair view of the state of affairs of the Institute, its income and expenditure, recognised gains and losses and cash flows for the financial year.

DARD has appointed the Chief Executive Officer of the Institute as Accounting Officer of the Institute, with responsibility for preparing the Institute's accounts and for transmitting them to the Comptroller and Auditor General.

In preparing the accounts, the Accounting Officer is required to comply with the Government Financial Reporting Manual and in particular to:

- a) observe the Accounts Direction issued by DARD, including the relevant accounting and disclosure requirements, and apply suitable accounting policies on a consistent basis;
- b) make judgments and estimates on a suitable basis;
- c) state whether applicable accounting standards, as set out in the Government Financial Reporting Manual have been followed, and disclose and explain any material departures in the accounts; and
- d) prepare the accounts on a going concern basis.

Note 21 to the financial statements indicates that the Accounting Officer has an ongoing legal claim against the Institute which has been provided for within the financial statements. The details of this provision has not been disclosed to the Accounting Officer during the preparation of the financial statements as this may prejudice any potential settlement. Consequently the Accounting Officer has been unable to fulfil all the duties required and the Principal Accounting Officer in DARD has overseen this aspect of the preparation of their financial statements.

The responsibilities of an Accounting Officer, including responsibility for the propriety and regularity of the public finances for which he is answerable, for keeping proper records and for guarding the Institute's assets, are set out in the Accounting Officer's memorandum issued by DFP and published in *Managing Public Money Northern Ireland*.

Audit certificate

THE CERTIFICATE AND REPORT OF THE COMPTROLLER AND AUDITOR GENERAL TO THE NORTHERN IRELAND ASSEMBLY

I certify that I have audited the financial statements of Agri-Food and Biosciences Institute for the year ended 31 March 2011 under the Agriculture (Northern Ireland) Order 2004. These comprise the Statement of Comprehensive Net Expenditure, the Statement of Financial Position, the Statement of Cash Flows, the Statement of Changes in Taxpayers' Equity and the related notes. These financial statements have been prepared under the accounting policies set out within them. I have also audited the information in the Remuneration Report that is described in that report as having been audited.

Respective responsibilities of the Chief Executive and auditor

As explained more fully in the Statement of Chief Executive's Responsibilities, the Chief Executive is responsible for the preparation of the financial statements and for being satisfied that they give a true and fair view. My responsibility is to audit the financial statements in accordance with the Agriculture (Northern Ireland) Order 2004. I conducted my audit in accordance with International Standards on Auditing (UK and Ireland). Those standards require me and my staff to comply with the Auditing Practices Board's Ethical Standards for Auditors.

Scope of the audit of the financial statements

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the Agri-Food and Biosciences Institute's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the Agri-Food and Biosciences Institute; and the overall presentation of the financial statements. In addition I read all the financial and non-financial information in the Annual Report to identify material inconsistencies with the audited financial statements. If I become aware of any apparent material misstatements or inconsistencies I consider the implications for my certificate.

In addition, I am required to obtain evidence sufficient to give reasonable assurance that the expenditure and income reported in the financial statements have been applied to the purposes intended by the Assembly and the financial transactions conform to the authorities which govern them.

Opinion on Regularity

In my opinion, in all material respects the expenditure and income have been applied to the purposes intended by the Assembly and the financial transactions conform to the authorities which govern them.

Opinion on financial statements

In my opinion:

- the financial statements give a true and fair view, of the state of the Agri-Food and Biosciences Institute's affairs as at 31 March 2011 and of its net expenditure, cash flows and changes in taxpayers' equity for the year then ended; and
- the financial statements have been properly prepared in accordance the Agriculture (Northern Ireland) Order 2004 and the Department of Agriculture and Rural Development directions issued thereunder.

Opinion on other matters

In my opinion:

- the part of the Remuneration Report to be audited has been properly prepared in accordance with the Department of Agriculture and Rural Development directions issued under the Agriculture (Northern Ireland) Order 2004; and
- the information given in the Management Commentary and the unaudited part of the Remuneration Report included within the Annual Report for the financial year for which the financial statements are prepared is consistent with the financial statements.

Matters on which I report by exception

I have nothing to report in respect of the following matters which I report to you if, in my opinion:

- adequate accounting records have not been kept; or
- the financial statements and the part of the Remuneration Report to be audited are not in agreement with the accounting records; or
- I have not received all of the information and explanations I require for my audit; or
- the Statement on Internal Control does not reflect compliance with Department of Finance and Personnel's guidance.

Report

I have no observations to make on these financial statements.



KJ Donnelly
Comptroller and Auditor General
Northern Ireland Audit Office
106 University Street
Belfast
BT7 1EU

30th January 2012

Statement of Comprehensive Net Expenditure

For the year ended 31 March 2011

| | Note | 2011 £000 | 2010 £000 |
|---|------|-----------------|-----------------|
| Expenditure | | | |
| Staff costs | 3 | 28,087 | 27,542 |
| Depreciation | 4 | 2,523 | 2,781 |
| Other Expenditures | 4 | 23,328 | 22,855 |
| | | <u>53,938</u> | <u>53,178</u> |
| Income | | | |
| Income from Activities | 5 | <u>(14,733)</u> | <u>(10,775)</u> |
| Net Expenditure | | <u>39,205</u> | <u>42,403</u> |
| Notional Charges | 4 | 837 | 743 |
| Cost of Capital | 4 | - | 236 |
| Interest Payable/receivable | 4 | - | 1 |
| Net Expenditure after cost of capital charge and interest | | <u>40,042</u> | <u>43,383</u> |
| Other Comprehensive Expenditure | | | |
| | Note | 2011 £000 | 2010 £000 |
| Net (gain)/loss on revaluation of Property, Plant and Equipment | 6 | (83) | (277) |
| Net (gain)/loss on revaluation of Intangibles | 7 | (5) | (5) |
| Total Comprehensive Expenditure for the year ended 31 March 2011 | | <u>39,954</u> | <u>43,101</u> |

The notes on pages 7 to 30 form part of these accounts.

Statement of Financial Position

as at 31 March 2011

| | Note | 2011 | | 2010 | |
|--|------|---------|---------|----------|----------|
| | | £000 | £000 | £000 | £000 |
| Non-current assets: | | | | | |
| Plant and Equipment | 6 | 11,746 | | 11,841 | |
| Intangible assets | 7 | 191 | | 163 | |
| Biological assets | 8 | 1,108 | | 1,019 | |
| Total non-current assets | | | 13,045 | | 13,023 |
| Current assets: | | | | | |
| Inventories | 11 | 330 | | 282 | |
| Trade and other receivables | 12 | 7,553 | | 5,948 | |
| Cash and cash equivalents | 13 | 3 | | 4 | |
| Total current assets | | | 7,886 | | 6,234 |
| Total assets | | | 20,931 | | 19,257 |
| Current liabilities | | | | | |
| Trade and other payables | 14 | (6,696) | | (10,621) | |
| Total current liabilities | | | (6,696) | | (10,621) |
| Non-current assets plus/less net current assets/liabilities | | | 14,235 | | 8,636 |
| Non-current liabilities | | | | | |
| Provisions | 15 | (2,056) | | (2,110) | |
| Total non-current liabilities | | | (2,056) | | (2,110) |
| Assets less liabilities | | | 12,179 | | 6,526 |
| Taxpayers' equity | | | | | |
| General Reserve | | | 11,095 | | 5,223 |
| Revaluation Reserve | | | 1,023 | | 1,185 |
| Donated Assets Reserve | | | 61 | | 118 |
| | | | 12,179 | | 6,526 |

The financial statements were approved by the Board on 24th January 2012 and were signed on its behalf by:



Professor Seamus Kennedy MVB PhD MRCVS FRCPATH
Chief Executive and Accounting Officer

Date: 25 January 2012

The notes on pages 66 to 89 form part of these accounts.

Statement of Cash Flows

for the year ended 31 March 2011

| | Note | 2011 £000 | 2010 £000 |
|---|------|--------------|--------------|
| Cash flows from operating activities | | | |
| Net expenditure after cost of capital and interest | | (40,042) | (43,383) |
| <i>Non-cash transactions</i> | 4 | | |
| Cost of capital | | - | 236 |
| Notional charges - Account NI | | 837 | 743 |
| Movement in provision for bad debts | | 86 | (48) |
| Bad debts written off | | 4 | - |
| Increase in provisions | | 175 | 435 |
| Impairment of fixed assets | | 1 | (26) |
| Change in value of livestock due to births | | (73) | - |
| Change in value of livestock due to deaths | | 62 | 30 |
| (Profit)/loss on disposal of non current assets | | (9) | 17 |
| (Profit) on disposal of biological assets | | (61) | (266) |
| Release of donated assets reserve | | (57) | (56) |
| Depreciation and amortisation charges | | 2,523 | 2,781 |
| Change in market value of livestock | | (274) | (416) |
| (Increase) / Decrease in trade receivables | | (1,691) | 916 |
| (Increase) / Decrease in Inventories | | (48) | 13 |
| Increase / (Decrease) in trade payables | | (4,558) | 5,064 |
| Use of provisions | 15 | (229) | (5,907) |
| | | (3,312) | 3,516 |
| Net cash outflow from operating activities | | (43,354) | (39,867) |
| Cash flows from investing activities | | | |
| Purchase of plant and equipment | 6 | (1,895) | (1,647) |
| Purchase of intangible assets | 7 | (92) | (67) |
| Purchase of biological assets | 8 | (35) | (29) |
| Proceeds of disposal of plant and equipment | | 20 | 27 |
| Proceeds of disposal of biological assets | | 292 | 610 |
| Net cash outflow from investing activities | | (1,710) | (1,106) |
| Cash flows from financing activities | | | |
| Grants from parent department | | 44,827 | 41,475 |
| Net financing | | 44,827 | 41,475 |
| Net (decrease)/increase in cash and cash equivalents in the period | | (237) | 502 |
| Cash and cash equivalents at the beginning of the period | 13 | (177) | (679) |
| Cash and cash equivalents at the end of the period | 13 | (414) | (177) |

The notes on pages 66 to 89 form part of these accounts.

Statement of Changes in Taxpayers' Equity

for the year ended 31 March 2011

| | Note | General Reserve | Revaluation Reserve | Donated Assets Reserve | Total Reserves |
|---|------|-----------------|---------------------|------------------------|----------------|
| | | £000 | £000 | £000 | £000 |
| As at 31 March 2010 | | 5,223 | 1,185 | 118 | 6,526 |
| Change in Accounting Policy | | - | - | - | - |
| | | <u>5,223</u> | <u>1,185</u> | <u>118</u> | <u>6,526</u> |
| Changes in Taxpayers Equity 2010-11 | | | | | |
| Grant from parent | | 44,827 | - | - | 44,827 |
| Net gain/(loss) on revaluation of plant and equipment | | - | 83 | - | 83 |
| Net gain/(loss) on revaluation of intangible assets | | - | 5 | - | 5 |
| Release of reserves to the SCNE | | - | - | (57) | (57) |
| Notional charges - Account NI | 4 | 837 | - | - | 837 |
| Transfers between reserves | | 250 | (250) | - | - |
| Retained Surplus/(Deficit) | | (40,042) | - | - | (40,042) |
| | | <u>5,872</u> | <u>(162)</u> | <u>(57)</u> | <u>5,653</u> |
| Balance at 31 March 2011 | | <u>11,095</u> | <u>1,023</u> | <u>61</u> | <u>12,179</u> |

The notes on pages 66 to 89 form part of these accounts.

Statement of Changes in Taxpayers' Equity

for the year ended 31 March 2010

| | Note | General Reserve £000 | Revaluation Reserve £000 | Donated Assets Reserve £000 | Total £000 |
|---|------|-------------------------|-----------------------------|--------------------------------|---------------|
| As at 31 March 2009 | | 5,896 | 1,159 | 172 | 7,227 |
| Prior Period Adjustments | | - | - | - | - |
| Restated balance at 1 April 2009 | | 5,896 | 1,159 | 172 | 7,227 |
| Net gain/(loss) on revaluation of plant and equipment | | - | 277 | 2 | 279 |
| Net gain/(loss) on revaluation of intangible assets | | - | 5 | - | 5 |
| Release of reserves to the I&E | | - | - | (56) | (56) |
| Non-cash charges - cost of capital | 5 | 236 | - | - | 236 |
| Notional charges - Account NI | 5 | 743 | | | 743 |
| Transfers between reserves | | 256 | (256) | - | - |
| Retained Surplus/Deficit | | (43,383) | - | - | (43,383) |
| Total recognised Income and expense for 2009-10 | | (42,148) | 26 | (54) | (42,176) |
| Grant from parent | | 41,475 | - | - | 41,475 |
| Balance at 31 March 2010 | | 5,223 | 1,185 | 118 | 6,526 |

The notes on pages 66 to 89 form part of these accounts.

Notes to the accounts

for the year ended 31 March 2011

1. Statement of accounting policies

These financial statements have been prepared in accordance with the 2010-11 *Government Financial Reporting Manual (FReM)* issued by DFP and the Accounts Direction issued by DARD on 19 April 2006. The accounting policies contained in the FReM apply International Financial Reporting Standards (IFRS) as adapted or interpreted for the public sector context. Where the FReM permits a choice of accounting policy, the accounting policy which is judged to be most appropriate to the particular circumstances of the Agri-Food and Biosciences Institute for the purpose of giving a true and fair view has been selected. The particular policies adopted by the Agri-Food and Biosciences Institute are described below. They have been applied consistently in dealing with items that are considered material to the accounts.

Accounting convention

These accounts have been prepared under the historical cost convention modified to account for the revaluation of plant and equipment, intangible assets, biological assets and inventories.

Plant and equipment

1. The Institute does not own any land or buildings but leases them from DARD.
2. Other non-property assets are stated at current cost using appropriate indices to account for the effects of inflation. No independent valuer is involved in valuation of assets. The date of the revaluation is the reporting date of 31 March each year.
3. The threshold for capitalisation is £5,000 excluding VAT.
4. The Institute does not capitalise fixtures, fittings or office furniture.

Donated fixed assets

Donated fixed assets are capitalised at their fair value on receipt and this value is credited to the donated asset reserve. Donated fixed assets are valued and depreciated as described below for purchased assets. Gains and losses on revaluations are also taken to the donated asset reserve and, each year, an amount equal to the depreciation charge on the asset is released from the donated asset charged to the Statement of Comprehensive Net Expenditure. Any impairment on donated assets charged to the Statement of Comprehensive Net Expenditure is matched by a transfer from the donated asset reserve. On sale of donated assets, the value of the sale proceeds is transferred from the donated asset reserve to the General Reserve.

Depreciation

Assets in course of construction are not depreciated.

Depreciation is charged on a straight line basis in order to write off the valuation of assets, less estimated residual value, of each asset over the expected useful life.

Assets are depreciated from the period of acquisition and not depreciated in the period of disposal. The useful lives of tangible assets, which are reviewed regularly, are:

| | |
|-----------------------------------|---------------|
| Plant | 3 to 15 years |
| Equipment | 5 to 20 years |
| Transport equipment: boats | 5 to 15 years |
| Transport equipment: vehicles | 5 to 10 years |
| Information technology: computers | 3 to 6 years |

The useful lives of intangible assets, which are reviewed regularly, are:

| | |
|-------------------|---------------|
| Software licences | 2 to 10 years |
|-------------------|---------------|

Intangible assets

Software licences are stated at current cost using appropriate indices to account for the effects of inflation. Software assets are depreciated from the period of acquisition and not depreciated in the period of disposal.

Biological assets

Biological assets comprise cattle, sheep, pigs and goats which are used for research purposes. They are categorised according to the attributes used in the market to facilitate their valuation at the reporting date.

Cattle were further grouped as follows:

- Beef cattle are grouped by gender, breed and age.
- Dairy cattle are grouped by lactation and breed.

Biological assets are valued at fair value less estimated costs at the point of sale at the end of the reporting period. This is further disclosed in accordance with IAS 41 Agriculture, by showing the aggregate value of purchases, sales, changes in value due to changes in physical conditions of the herd and changes in the value of the herd due to changes in market price.

Changes in value due to changes in physical conditions of the herd represent births which took place during the current financial year. The economic value of these transactions is debited or credited to the Statement of Comprehensive Net Expenditure when they occur.

Changes in value of the herd due to changes in market price represent the difference between the purchase cost or the value brought forward of each animal and the market value at the end of the reporting period. The difference is recognised in the Statement of Comprehensive Net Expenditure.

Inventories

Inventories are valued at the lower of cost and net realisable value.

Research and Development Expenditure

Research and development expenditures include all costs relating to the scientific and technical patent work, education and training necessary to ensure the development, start-up, and commercialisation of new or improved products or processes.

Research expenditure is recognised as an expense when incurred.

Development expenditure on new or substantially improved products is capitalised as an intangible asset and amortised through cost of sales over the expected useful life of the product concerned. Capitalisation commences from the point at which the technical feasibility and commercial viability of the product can be demonstrated and AFB Management is satisfied that it is probable that future economic benefit will result from the product once completed. This is usually at the point of regulatory filing in a major market and approval is highly probable. Capitalisation ceases when the product is ready for launch.

Cash and cash equivalents

Cash and cash equivalents comprise of cash and deposits with commercial banks. At each year end, the carrying value of cash at bank and in hand approximates their fair value due to their short-term nature.

Operating Income

Revenue is recognised when it is probable that the economic benefits will flow to the Institute and the revenue can be reliably measured. Revenue is recognised as follows:

For sales of services, revenue is recognised in the accounting period in which the services are rendered by reference to stage of completion of the specific transaction assessed on the basis of the actual service provided as a proportion of the total services to be provided.

For sales of goods, revenue is recognised when the significant risks and rewards of ownership of the goods have passed to the buyer and the amount of revenue can be measured reliably.

Royalties, Charter of Ship and Rents receivable: Revenue is recognised on an accruals basis in accordance with the substance of the relevant agreement.

Employee benefits

Under the requirements of IAS 19 Employee Benefits, staff costs must be recorded as an expense as soon as the organisation is obligated to pay them. This includes the cost of any untaken leave that has been earned at the year end. The 2010-11 figure has been based on a specific report run from the Personnel system which calculates the year end balance using leave balances on the system. In the prior year the cost was estimated using average staff numbers and costs applied to the average untaken leave balance determined from the results of a survey to ascertain leave balances as at 31 March 2010. It is not anticipated that the level of untaken annual and flexi leave will vary significantly from year to year.

Leases

Operating lease rentals are charged directly to the Statement of Comprehensive Net Expenditure over the period of the lease. There are no finance leases.

Financial instruments

The Institute is not allowed to borrow or invest surplus funds as per the Management Statement and Financial Memorandum. Financial assets and liabilities are generated by operational activities and are not held to handle the risk profile facing the Institute in undertaking its operations.

Liquidity risk

The Institute's net revenue resource requirements are financed by the Grant in Aid agreed with the Department of Agriculture and Rural Development, as is its capital expenditure. It is not, therefore, exposed to significant liquidity risks.

Interest rate risk

All the Institute's financial assets and liabilities carry nil rate of interest and it is not therefore exposed to significant interest rate risk.

Foreign currency risk

The majority of the Institute's operations, assets and liabilities are denominated in Sterling. Therefore its exposure to foreign currency risk is not significant.

Grants receivable

Grant in aid represents net funding received from DARD and is credited to general reserves.

Provisions

The Institute makes provisions for liabilities and charges where, at the Statement of Financial Position date, a legal or constructive liability exists (i.e. a present obligation for past events exists), where the transfer of economic benefits is probable and a reasonable estimate can be made. Where the time value of money is material, the Institute discounts the provision to its present value using a standard government discount rate, which currently stands at 3.5%.

Estimated techniques used and changes in accounting estimates

Provision is made for non government debts greater than 90 days old which are considered doubtful. The effect of a change on accounting estimate is recognised by including it in the Statement of Comprehensive Net Expenditure in:

- the period of the change, if the change affects that period only
- the period of the change and future periods, if that change affects both.

Value Added Tax

Value Added Tax (VAT) is accounted for in accordance with the Statement of Standard Accounting Practice 5, in the absence of an International Financial Reporting Standard (IFRS). An amount shown net of VAT, except where irrecoverable VAT, is charged to the Statement of Comprehensive Net Expenditure.

Third party assets

The Institute does not hold any third party assets.

Capital charge

In the year ended 31 March 2010, the FReM required a non-cash capital charge, reflecting the cost of capital utilised by AFBI, to be included in the Statement of Comprehensive Net Expenditure. Under the 2010-2011 FReM, notional costs are no longer recorded for cost of capital. The 09/10 cost of capital charge was below materiality therefore no prior period adjustment has been made.

Operating segments

IFRS 8 Operating Segments requires the identification of operating segments on the basis of internal reports reviewed by the Institute's Chief Decision Maker in order to allocate resources to each specific segment and assess its performance.

The Institute has completed a review against the criteria set out in IFRS 8 and considers that the disclosure format within the accounts meets IFRS 8 criteria.

AFBI's annual accounts provide more detailed information on programme expenditure than that provided to the Institutes Management Board.

Contingent liabilities

In addition to contingent liabilities disclosed in accordance with IAS 37, the Institute discloses for parliamentary reporting and accountability purposes certain statutory and non-statutory contingent liabilities where the likelihood of a transfer of economic benefit is remote, but which have been reported to the Assembly in accordance with the requirements of Managing Public Money Northern Ireland.

Where the time value of money is material, contingent liabilities which are required to be disclosed under IAS 37 are stated at discounted amounts and the amount reported to the Assembly separately noted.

Contingent liabilities that are not required to be disclosed by IAS 37 are stated at the amounts reported to the Assembly.

Reserves

Donated assets reserve

The Donated Assets Reserve is maintained to represent the financing associated with the receipt of a donated asset and to provide a mechanism for neutralizing depreciation, impairment or profit/loss on disposal charged to the SNCE in respect of donated assets.

Revaluation reserve

The Revaluation Reserve reflects the unrealized balance of the cumulative indexation and revaluation adjustments to assets other than donated assets and those funded by grants.

General reserve

The General Reserve represents the Institute's total assets less total liabilities which is not represented by other reserves and financing items.

Pensions

PCSPS (NI)

Present and past employees are covered by the Principal Civil Service Pension Scheme (Northern Ireland) (PCSPS (NI)), which is a defined benefit scheme and is unfunded and non-contributory. The Institute recognises the expected cost of providing pensions on a systematic and rational basis over the period during which it benefits from employees' services by payment to the PCSPS (NI) of amounts calculated on an accruals basis.

All pension contributions are charged to the Statement of Comprehensive Net Expenditure when incurred.

Impending Application of Newly Issued Accounting Standards Not Yet Effective

The Institute provides disclosure that it has not yet applied a new accounting standard, and known or reasonably estimable information relevant to assessing the possible impact that initial application of the new standard will have on the Institute's financial statements.

2.Segmental reporting

Segmental selection is based on the organisational structure that AFBI uses to make decisions on resource allocation as well as the availability of financial information based on that structure. AFBI has four operational divisions supported by the Corporate Services Division (CSD). The operational divisions are:

Applied Plant Science and Biometrics Division (APSBD) provides statutory services including certification of monitoring for the Department of Agriculture and Rural Development (DARD) of pasture, seeds and plant health, and provides specialist advice on weeds, crop plants, varieties and disease problems. APSBD's research takes account of environmental needs and sustainable economic growth in Northern Ireland's countryside.

Agriculture, Food & Environmental Sciences Division (AFESD) provides scientific support for the growth, sustainability and competitiveness of Northern Ireland's farming, fishing and agri-food industries, and assists the industry to maintain high standards of environmental protection and animal welfare.

Veterinary Sciences Division (VSD) delivers world class veterinary science to the animal, food and fish based sectors of the agri-food industry.

Agricultural and Food Economics Branch (AFEB) carries out economic modelling exercises.

Analysis of net expenditure by segment 2010/11

| | AFEB | AFESD | APSBD | VSD | Corp Services | Subtotal | Other | Total |
|-----------------------------------|-------------|--------------|--------------|------------|--------------------------|-----------------|--------------|--------------|
| Gross Expenditure | 635 | 15,483 | 7,438 | 12,827 | 14,308 | 50,691 | 3,247 | 53,938 |
| Cost of capital and other charges | - | - | - | - | - | - | 837 | 837 |
| | 635 | 15,483 | 7,438 | 12,827 | 14,308 | 50,691 | 4,084 | 54,775 |
| Income | (212) | (4,739) | (1,348) | (6,681) | (1,753) | (14,733) | - | (14,733) |
| Net Expenditure | 423 | 10,744 | 6,090 | 6,146 | 12,555 | 35,958 | 4,084 | 40,042 |
| Assets | 54 | 7,036 | 2,716 | 2,209 | 8,916 | 20,931 | - | 20,931 |
| Liabilities | (136) | (1,078) | (323) | (1,486) | (5,729) | (8,752) | - | (8,752) |

2. Segmental reporting (continued)

Analysis of net expenditure by segment 2009/10

| | AFEB | AFESD | APSD | VSD | Corp Services | Subtotal | Other | Total |
|--|------|---------|-------|---------|------------------|----------|-------|----------|
| Gross Expenditure | 501 | 15,038 | 6,503 | 11,225 | 14,097 | 47,364 | 5,814 | 53,178 |
| Cost of capital and other charges | | | | | | | 980 | 980 |
| | 501 | 15,038 | 6,503 | 11,225 | 14,097 | 47,364 | 6,794 | 54,158 |
| Income | (36) | (4,567) | (954) | (4,675) | (543) | (10,775) | - | (10,775) |
| Net Expenditure | 465 | 10,471 | 5,549 | 6,550 | 13,554 | 36,590 | 6,794 | 43,383 |
| Assets | 37 | 7,259 | 2,849 | 4,825 | 4,287 | 19,257 | - | 19,257 |
| Liabilities | (19) | (1,158) | (441) | (640) | (10,473) | (12,731) | - | (12,731) |

3. Staff numbers and related costs

Staff costs comprise:

| | Permanently employed staff | | Others | | Total | |
|--|-------------------------------|---------------|------------|------------|---------------|---------------|
| | 2011 | 2010 | 2011 | 2010 | 2011 | 2010 |
| | £000 | £000 | £000 | £000 | £000 | £000 |
| Wages and salaries | 21,545 | 21,894 | 738 | 596 | 22,283 | 22,490 |
| Social security costs | 1,638 | 1,501 | - | - | 1,638 | 1,501 |
| Other pension costs | 4,166 | 3,551 | - | - | 4,166 | 3,551 |
| Sub Total | 27,349 | 26,946 | 738 | 596 | 28,087 | 27,542 |
| Less recoveries in respect of outward secondments | (92) | (134) | - | - | (92) | (134) |
| Total net costs | 27,257 | 26,812 | 738 | 596 | 27,995 | 27,408 |

The 09/10 figure has been restated as a result of reclassifying provision expenditure in Note 4.

Pension scheme details

PCSPS (NI)

The Principal Civil Service Pension Scheme (Northern Ireland) [PCSPS(NI)] is an unfunded multi-employer defined benefit scheme but the Agri-Food and Biosciences Institute is unable to identify its share of the underlying assets and liabilities. The most up to date actuarial valuation was carried out as at 31 March 2007 and details of this valuation are available in the PCSPS(NI) resource accounts.

For 2010-11, employers contributions of £4,165,984.10 were payable to the PCSPS(NI) (2009-10 £3,551,449.12) at one of four rates in the range 18% to 25% of pensionable pay, based on salary bands. The scheme's Actuary reviews employer contributions every four years following a full scheme valuation. From 2011-12, the rates will be in the range 18% to 25%. The contribution rates are set to meet the cost of the benefits accruing during 2010-11 to be paid when the member retires, and not the benefits paid during this period to existing pensioners.

Employees can opt to open a partnership pension account, a stakeholder pension with an employer contribution. Employers' contributions were paid to one or more of the panel of three appointed stakeholder pension providers. Employer contributions are age-related and range from 3% to 12.5% of pensionable pay. Employers also match employee contributions up to 3% of pensionable pay. In addition, employer contributions of 0.8% of pensionable pay, were payable to the PCSPS(NI) to cover the cost of the future provision of lump sum benefits on death in service and ill health retirement of these employees.

Average number of persons employed

The average number of whole-time equivalent persons employed during the year was as follows.

| | Total | Restated |
|-----------------|--------------|-----------------|
| | 2011 | 2010 |
| Permanent Staff | 833 | 870 |
| Other | 35 | 26 |
| Total | 868 | 896 |

Other staff are defined as agency staff employed on a temporary contract. The 2009/10 staff numbers have been restated to include agency staff.

4. Other Expenditure

| | Note | 2011 £000 | 2010 £000 | 2010 £000 |
|--|------|--------------|--------------|--------------|
| Running costs | | | | |
| Travel and subsistence | | | 311 | 324 |
| Computer support | | | 192 | 185 |
| <i>Accommodation</i> | | | | |
| Rates and water | | 1,219 | | 1,060 |
| Electricity | | 1,014 | | 830 |
| Oil | | 295 | | 228 |
| Gas | | 720 | | 779 |
| Repairs and maintenance | | 610 | 3,858 | 521 |
| Postage, printing and stationery | | | 223 | 191 |
| <i>Communication and marketing</i> | | | | |
| Telephone | | 384 | | 289 |
| Marketing and advertisements | | 50 | 434 | 68 |
| Consultancy costs | | | 213 | 478 |
| Contracted out services | | | 1,178 | 1,220 |
| Hospitality | | | 4 | 3 |
| Training, conferences and library expenses | | | 663 | 846 |
| Legal costs and compensation | | | 116 | 177 |
| Royalty administration fees | | | 312 | - |
| Irrecoverable VAT | | | 1,218 | 1,201 |
| Other expenses | | | 377 | 176 |
| Audit fees | | | 39 | 40 |
| <i>Business Unit related expenditure</i> | | | | |
| Livestock expenses | | 62 | | 122 |
| Change in market value of livestock | 8 | (274) | | (416) |
| Change in value of livestock due to changes in physical conditions of the herd | 8 | (73) | | - |
| Change in value of livestock due to deaths | 8 | 62 | | 30 |
| Animal feed and veterinary expenses | | 607 | | 654 |
| Laboratory consumables | | 2,017 | | 2,032 |
| Plants, shrubs, fertiliser | | 143 | | 189 |
| Motor and tractor expenses | | 203 | | 211 |
| Lab equipment maintenance and other expenses | | 1,206 | | 1,190 |
| Apparatus, glassware and minor equipment | | 540 | | 656 |
| Protective clothing | | 63 | | 99 |
| Clinical and other waste disposal costs | | 341 | | 468 |
| Hire of plant and vehicles | | 93 | | 103 |

| | Note | 2011 | | 2010 | |
|---|-------------|-------------|---------------|-------------|---------------|
| | | £000 | £000 | £000 | £000 |
| Ship operating costs | | 1,991 | | 1,671 | |
| Other expenses | | <u>294</u> | 7,275 | <u>285</u> | 7,294 |
| Lease of land and buildings | | | 6,671 | | 6,655 |
| Rent of land | | | 44 | | 68 |
| Interest Charges | | | - | | 1 |
| <i>Non-cash items</i> | | | | | |
| Depreciation | 6 | 2,454 | | 2,681 | |
| Amortisation | 7 | <u>69</u> | | <u>100</u> | |
| | | 2,523 | | 2,781 | |
| Release from donated assets reserve | | (57) | | (56) | |
| Debt provision and charges | | 86 | | (48) | |
| Bad debts written off | | 4 | | - | |
| (Profit)/loss on disposal of non current assets | | (9) | | 17 | |
| Impairment of fixed assets | 10 | 1 | | (26) | |
| Cost of capital charges | | - | | 236 | |
| Notional charges - Account NI | | 837 | | 743 | |
| Provision provided for in year | 15 | <u>175</u> | | <u>335</u> | |
| | | | 3,560 | | 3,982 |
| | | | <u>26,688</u> | | <u>26,616</u> |

The 09/10 movement in provisions has been reclassified from expense type to provision provided for in year to ensure compliance with FReM.

5. Income

| | 2011 £000 | 2010 £000 |
|--|----------------------------|----------------------------|
| Income from analytical, diagnostic work and research contracts | 8,184 | 6,904 |
| Sale of general produce and livestock | 1,011 | 863 |
| Royalties | 4,056 | 2,857 |
| Refunds | 1,245 | - |
| Charter of the ship | 131 | - |
| Rents receivable | 14 | 17 |
| Recoveries in respect of outward secondments | 92 | 134 |
| Total | <u>14,733</u> | <u>10,775</u> |

Royalty income received from Queens University Belfast was received gross of a 10% administration fee from December 2010. The administration fee is then paid over on receipt of a VAT invoice, prior to December 2010 the fee was deducted before AFBI received the monies.

Refund balance relates to VAT reclaim for period 1 April 2006 to 31 March 2010.

Fees and charges

A detailed analysis of fees and charges information is not provided as the full cost of each service provided does not exceed £1m

6. Plant and Equipment 2010/11

| | Information Technology £000 | * Plant & Machinery £000 | Boats & Motor Vehicles £000 | Total £000 |
|-------------------------------------|-----------------------------------|--------------------------------|--------------------------------------|-----------------|
| Cost or valuation | | | | |
| At 1 April 2010 | 2,195 | 23,354 | 4,238 | 29,787 |
| Additions | 32 | 2,239 | 17 | 2,288 |
| Disposals | (113) | (30) | (13) | (156) |
| Impairments | - | (48) | (1) | (49) |
| Revaluations | 55 | 80 | 65 | 200 |
| At 31 March 2011 | 2,169 | 25,595 | 4,306 | 32,070 |
| | | | | |
| | Information Technology £000 | Plant & machinery £000 | Boats & Motor Vehicles £000 | Total £000 |
| Depreciation | | | | |
| At 1 April 2010 | (1,512) | (14,574) | (1,860) | (17,946) |
| Charge for the year | (279) | (1,802) | (373) | (2,454) |
| Disposals | 107 | 24 | 13 | 144 |
| Impairments | - | 23 | 1 | 24 |
| Revaluations | (28) | (39) | (25) | (92) |
| At 31 March 2011 | (1,712) | (16,368) | (2,244) | (20,324) |
| | | | | |
| Net book value | | | | |
| At 31 March 2011 | 457 | 9,227 | 2,062 | 11,746 |
| | | | | |
| Net book value | | | | |
| At 31 March 2010 | 683 | 8,780 | 2,378 | 11,841 |
| | | | | |
| Asset financing: | | | | |
| Owned | 457 | 9,227 | 2,062 | 11,746 |
| Finance Leased | - | - | - | - |
| On-balance sheet PFI contracts | - | - | - | - |
| Net book value 31 March 2011 | 457 | 9,227 | 2,062 | 11,746 |

* Plant & Machinery includes a donated asset of scientific equipment with a carrying value of £61,000 at 31 March 2011.

6. Plant and Equipment 2009/10

| | Information Technology | Plant & Machinery | Boats & Motor Vehicles | Total |
|-------------------------------------|---------------------------|----------------------|------------------------------|-----------------|
| | £000 | £000 | £000 | £000 |
| Cost or valuation | | | | |
| At 1 April 2009 | 1,755 | 21,891 | 3,917 | 27,563 |
| Additions | 319 | 1,950 | 326 | 2,595 |
| Disposals | (18) | (823) | (65) | (906) |
| Impairments | 46 | 10 | - | 56 |
| Revaluations | 93 | 326 | 60 | 479 |
| At 31 March 2010 | 2,195 | 23,354 | 4,238 | 29,787 |
| | | | | |
| | Information Technology | Plant & machinery | Boats & Motor Vehicles | Total |
| | £000 | £000 | £000 | £000 |
| Depreciation | | | | |
| At 1 April 2009 | (1,111) | (13,272) | (1,515) | (15,898) |
| Charge for the year | (364) | (1,931) | (386) | (2,681) |
| Disposals | 17 | 783 | 65 | 865 |
| Impairments | (27) | (5) | - | (32) |
| Revaluations | (27) | (149) | (24) | (200) |
| At 31 March 2010 | (1,512) | (14,574) | (1,860) | (17,946) |
| | | | | |
| Net book value | | | | |
| At 31 March 2010 | 683 | 8,780 | 2,378 | 11,841 |
| | | | | |
| Net book value | | | | |
| At 31 March 2009 | 644 | 8,619 | 2,402 | 11,665 |
| | | | | |
| Asset financing: | | | | |
| Owned | 683 | 8,780 | 2,378 | 11,841 |
| Finance Leased | - | - | - | - |
| On-balance sheet PFI contracts | - | - | - | - |
| Net book value 31 March 2010 | 683 | 8,780 | 2,378 | 11,841 |

* Plant & Machinery includes a donated asset of scientific equipment with a carrying value of £118,000 at 31 March 2010.

Intangible assets

Intangible assets comprise of software licences.

| | £000 |
|--------------------------|------------|
| Cost or valuation | |
| At 1 April 2010 | 491 |
| Additions | 92 |
| Disposals | - |
| Impairments | - |
| Revaluation | 10 |
| At 31 March 2011 | 593 |

| | £000 |
|-------------------------|--------------|
| Amortisation | |
| At 1 April 2010 | (328) |
| Charge for the year | (69) |
| Disposals | - |
| Impairments | - |
| Revaluations | (5) |
| At 31 March 2011 | (402) |

| | |
|-----------------------|-----|
| Net book value | |
| At 31 March 2011 | 191 |

| | |
|-----------------------|-----|
| Net book value | |
| At 31 March 2010 | 163 |

| | £000 |
|--------------------------|------------|
| Cost or valuation | |
| At 1 April 2009 | 414 |
| Additions | 67 |
| Disposals | - |
| Impairments | 5 |
| Revaluation | 5 |
| At 31 March 2010 | 491 |

| | £000 |
|-------------------------|--------------|
| Amortisation | |
| At 1 April 2009 | (223) |
| Charge for the year | (100) |
| Disposals | - |
| Impairments | (3) |
| Revaluations | (2) |
| At 31 March 2010 | (328) |

| | |
|-----------------------|-----|
| Net book value | |
| At 31 March 2010 | 163 |

| | |
|-----------------------|-----|
| Net book value | |
| At 31 March 2009 | 191 |

8. Biological Assets

| | 2011 | 2010 |
|--|--------------|--------------|
| | £000 | £000 |
| Livestock at Fair Value | | |
| Valuation as at 01 April | 1,019 | 949 |
| Purchases | 35 | 29 |
| Decreases due to sales | (231) | (345) |
| Changes in value due to deaths | (62) | (30) |
| Changes in value due to changes in physical conditions of the herd | 73 | - |
| Changes in value due to changes in market price | 274 | 416 |
| Valuation as at 31 March | <u>1,108</u> | <u>1,019</u> |

9. Financial Instruments

As the cash requirements of Agri-Food and Biosciences Institute (AFBI) are met through Grant-in-Aid provided by DARD, financial instruments play a more limited role in creating and managing risk than would apply to a non-public sector body. The majority of financial instruments relate to contracts to buy non-financial items in line with AFBI's expected purchase and usage requirements and AFBI is therefore exposed to little credit, liquidity or market risk.

10. Impairments

Plant & Machinery decreased in value of by £25k during the year. £1k was debited to the Statement of Comprehensive Net Expenditure and the remaining £24k was debited to the Revaluation Reserves to reverse an existing revaluation surplus in respect of the revalued assets. In 2009/10, computer hardware, software licences and plant & machinery were revalued upwards resulting in a £26k credit to the Statement of Comprehensive Net Expenditure.

Breakdown of impairments by category

| | 2011 | 2010 |
|-------------------|-------------|-------------|
| | £000 | £000 |
| Computer hardware | - | (19) |
| Software licences | - | (2) |
| Plant & Machinery | 1 | (5) |
| Motor Vehicles | - | - |
| | <u>1</u> | <u>(26)</u> |

11. Inventories

| | 2011 | 2010 |
|--|-------------|-------------|
| | £000 | £000 |
| Feedstuffs and sundry stocks at Hillsborough and Stoney Road | 206 | 148 |
| Consumables at Newforge and Stoney Road | 124 | 134 |
| | <u>330</u> | <u>282</u> |

12. Trade receivables and other current assets

| | 2011 | 2010 |
|--|--------------|--------------|
| | £000 | £000 |
| Amounts falling due within one year | | |
| Trade receivables | 3,610 | 3,535 |
| Other receivables | 1,029 | 92 |
| Prepayments and accrued Income | 2,914 | 2,321 |
| | <u>7,553</u> | <u>5,948</u> |
| | 2011 | 2010 |
| | £000 | £000 |
| Amounts owed by: | | |
| Other Central Government bodies | 2,640 | 2,132 |
| Local Authorities | 5 | 5 |
| NHS Bodies | 24 | - |
| Public Corporations | 17 | 3 |
| Non Government | 4,867 | 3,808 |
| | <u>7,553</u> | <u>5,948</u> |

Other receivables includes £947k due from HMRC. This is in relation to the recalculation of VAT returns for financial years 07/08 - 09/10 using a revised methodology and is subject to agreement by HMRC.

13. Cash and cash equivalents

| | 2011 | 2010 |
|---|--------------|--------------|
| | £000 | £000 |
| Balance at 1 April | (177) | (679) |
| Net change in cash and cash equivalent balances | (237) | 502 |
| Balance at 31 March | <u>(414)</u> | <u>(177)</u> |

The following balances at 31 March were held at:

| | | |
|---------------------|--------------|--------------|
| Cash in hand | 3 | 4 |
| Cash at bank | (417) | (181) |
| Balance at 31 March | <u>(414)</u> | <u>(177)</u> |

14. Trade payables and other current liabilities

| | 2011 | 2010 |
|-------------------------------------|--------------|---------------|
| Amounts falling due within one year | £000 | £000 |
| Bank overdraft | 417 | 181 |
| VAT | 111 | 17 |
| Other taxation and social security | 7 | 6 |
| Trade payables | 46 | 84 |
| Other payables | 7 | 11 |
| Capital creditors | 1,540 | 1,143 |
| Accruals and deferred Income | 4,568 | 9,179 |
| | <u>6,696</u> | <u>10,621</u> |

| | 2011 | 2010 |
|---------------------------------|--------------|---------------|
| Amounts owed to: | £000 | £000 |
| Other Central Government bodies | 1,916 | 734 |
| Local Authorities | 2 | 2 |
| NHS Bodies | - | - |
| Public Corporations | 38 | - |
| Non Government | 4,740 | 9,885 |
| | <u>6,696</u> | <u>10,621</u> |

15. Provisions for liabilities and charges

| | Legal £'000 | Decommissioning Costs £'000 | Equal Pay £'000 | Total £'000 |
|---------------------------|------------------------|--|----------------------------|------------------------|
| Balance at 1 April 2010 | 1,101 | 100 | 909 | 2,110 |
| Provided in the year | 779 | - | - | 779 |
| Provisions not required | (45) | (10) | (549) | (604) |
| Provisions utilised in yr | (229) | - | - | (229) |
| Balance at 31 March 2011 | 1,606 | 90 | 360 | 2,056 |

| | NILGOSC £'000 | Legal £'000 | Early Departure £'000 | Decommissioning Costs £'000 | Equal Pay £'000 | Total £'000 |
|---------------------------|--------------------------|------------------------|--------------------------------------|--|--------------------------------|------------------------|
| Balance at 1 April 2009 | 6,664 | 787 | 131 | - | - | 7,582 |
| Provided in the year | - | 1,091 | - | 100 | 909 | 2,100 |
| Provisions not required | (1,177) | (357) | (131) | - | - | (1,665) |
| Provisions utilised in yr | (5,487) | (420) | - | - | - | (5,907) |
| Balance at 31 March 2010 | - | 1,101 | - | 100 | 909 | 2,110 |

Provisions have not been discounted as these relate to payments due to be paid in the near future.

NILGOSC

The closure of the ARINI pension scheme raised a potential liability of £6.764 million at 31 March 2009 arising from a deficit in the former ARINI pensions fund and a cessation penalty imposed by the administrators of the scheme due to the loss of future contributions. Further actuarial advice indicated that the amount payable was at March 2010 is £4.985m. This was included in accruals at 31 March 2010 and paid in March 2011.

Legal

This relates to personal injury legal cases and an intellectual property claim. Legal claims are assessed by independent solicitors and a provision of 100% of the likely maximum claim value is made. This percentage is to be reviewed on an ongoing basis to ensure it continues to represent a reasonable estimate of the expenditure on such claims.

Early departure

This relates to pension payments to a staff member who took early retirement. The provision was reversed in 2009/10 as the individual reached 60 years of age during the year and AFBI are no longer required to make the payments.

Decommissioning costs

This relates to a piece of equipment which holds radioactive material and as such falls under the High Activity Sealed Radioactive Sources (HASS) Regulations 2003. The material is used by AFBI in the course of its business. The provision is required to cover the cost of compliance with HASS Regulations when the equipment is disposed of.

Equal pay

This relates to the NICS Equal Pay Settlement and revised pay scales for Administrative Assistants, Administrative Officers, Executive Officers IIs and all analogous grades. The provision was calculated by NISRA based on liability from 1 April 2006 when the Agri-Food and Biosciences Institute was created.

16. Capital commitments

The Institute has no capital commitments at the year end.

17. Commitments under leases

Operating leases

Total future minimum lease payments under operating leases are given in the table below for each of the following periods:

| | 2011 £000 | 2010 £000 |
|---|---------------|---------------|
| Obligations under operating leases comprise: | | |
| <i>Land and buildings</i> | | |
| Not later than one year | 6,652 | 6,652 |
| Later than one year and not later than five years | 26,608 | 26,608 |
| | <u>33,260</u> | <u>33,260</u> |
| <i>Photocopiers</i> | | |
| Not later than one year | 12 | 9 |
| Later than one year and not later than five years | 9 | 9 |
| | <u>21</u> | <u>18</u> |

18. Commitments under PFI contracts

The Institute had no PFI contracts during 2010/2011.

19. Other financial commitments

The Institute has no financial commitments at the year end.

20. Contingent liabilities disclosed under IAS 37

The NICS Equal Pay settlement covered the period from 1st February 2003 to 31st January 2009. As AFBI came into existence on 1st April 2006 the Equal Pay provision included in Note 15 covers the period 1st April 2006 to 31st January 2009, this is in accordance with legal advice. Any liability in relation to the period from 1st February 2003 to 31st March 2006 is subject to the outcome of any decisions which may be taken by the affected parties.

21. Related-party transactions

The Department of Agriculture and Rural Development is the sponsor department of the Institute with which it had various material transactions during the year and is regarded as a related party.

In addition the Institute had some transactions with other government departments and central government bodies. Most of these transactions have been with Northern Ireland departments and their executive agencies such as DFP (including CPD and Pensions Branch), DCAL, DOE, FSA (NI), HMRC and DEFRA.

Within the provisions (Note 15) there is an amount in respect of an ongoing legal claim for which the Chief Executive is a potential beneficiary.

One member of the AFBI Board is employed by Dunbia to whom AFBI provide scientific research services. In accordance with IAS 24 (2010) the transactions that occurred within the financial year and any balances with Dunbia are shown below:

| | 2011 | 2010 |
|---------------------------------------|-------------|-------------|
| | £000 | £000 |
| Revenues generated during the year | 190 | 137 |
| Expenditure incurred during the year | - | (9) |
| Net value of transactions at year end | 190 | 128 |

| | 2011 | 2010 |
|-------------------------|-------------|-------------|
| | £000 | £000 |
| Amount owed to AFBI | 116 | 161 |
| Amount due to Dunbia | - | - |
| Net balance at year end | 116 | 161 |

Other than the above, no Board member, key manager or other related party has undertaken any material transactions with the Institute during the year.

Any other compensation payments issued to the AFBI Board in relation to IAS 19 Employee Benefits are disclosed within the Remuneration Report.

22. Third-party assets

The Institute does not hold any third party assets.

NOTES



Scientific excellence in Northern Ireland... ...serving the world

AFBI's mission is to maintain and enhance its reputation as a world-class scientific institute, delivering proven value to government and other customers.

AFBI provides research and development, analytical and diagnostic services, and scientific advice in agriculture, food, animal and plant health, marine and fresh water ecosystem management and the agri-environment.

Our customers include a range of local, national and international commercial companies, Northern Ireland and United Kingdom Departments, Agencies, and associated bodies and the European Union.

We pride ourselves on the quality and breadth of our scientific expertise and maintain appropriate quality assured accreditation standards.

AFBI has various national and international reference laboratories.

AFBI maintains a cutting edge skills and technology base to fulfil its statutory obligations including provision of rapid, scientific response capabilities for DARD and other Departments during emergencies.

AFBI scientists have long standing experience and internationally recognised standards of providing evidence-based scientific advice to Government policy makers and commercial decision makers.

We are the partner / contractor of choice for many local, national and international bodies.

A major aim is to support industry by providing a "one-stop shop" for diverse specialist expertise and facilities.

AFBI's expertise includes:
Veterinary diagnostics; animal health and welfare; food science; crop and livestock systems; biometric traceability; plant breeding; biometrics and statistics; agricultural economics; renewable energy and non-food crop agronomy; oceanography; fish stock management, aquatic and land based ecosystem management of natural resources.

AFBI has facilities sited across Northern Ireland which include modern laboratories and secure animal accommodation and has a purpose built marine research vessel. The facilities have "state of the art" equipment required to resolve scientific problems and produce sophisticated and reliable results.

Technological capabilities include:
molecular technologies; light and electron microscopy; mass spectrometry; pathogenesis studies; biosensor technology; seabed mapping and minimal processing technologies.

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