



# ANNUAL REPORT 2010 & FINANCIAL STATEMENTS



AGRICULTURE AND FOOD DEVELOPMENT AUTHORITY  
[www.teagasc.ie](http://www.teagasc.ie)

## Contents

1	Introduction
2	Chairman's Statement
4	Report of the Director
6	Authority Members
7	Authority Committee Members
8	Senior Management
9	Organisational Chart
10	Office Locations
11	<b>Goal 1</b> - Improve the competitiveness of agriculture, food and the wider bioeconomy
25	<b>Goal 2</b> - Support sustainable farming and the environment
33	<b>Goal 3</b> - Encourage diversification of the rural economy and enhance the quality of life in rural areas
41	<b>Goal 4</b> - Enhance organisational capability and deliver value for money
50	Financial Statements
56	Notes to the Financial Statements



## Introduction

The 2010 Annual Report is built around the goals outlined in the Teagasc Statement of Strategy 2008-2010. Examples of key achievements and developments for the Research, Knowledge Transfer and Operations directorates are described in the context of these goals.



# CHAIRMAN'S STATEMENT



**F**armers' incomes improved in 2010, with the average farm income increasing by 46% to €17,771. This was primarily due to higher milk prices where the average income on dairy farms increased by 81% and a lift in gross output of 40% on tillage farms. Subsidies accounted for 98% of family farm income, highlighting the dependence of Irish farm families on the Common Agricultural Policy. These figures from the Teagasc National Farm Survey reinforce the significance of achieving a favourable outcome for Ireland from the ongoing Common Agricultural Policy reform negotiations in Brussels. Teagasc, led by the Rural Economy and Development unit, together with others in the Irish agri-food sector will actively support the Minister for Agriculture, Food and the Marine, Simon Coveney TD and his team in order to achieve the desired result.

Despite the obvious budgetary constraints Teagasc continues to prudently invest in new facilities, using the proceeds of assets disposals. The Nutraceutical Research Centre at Ashtown is one such facility, which was opened by the EU Commissioner Maire Geoghegan Quinn in 2010. It demonstrates Teagasc's commitment to investment in research and innovation. Science, technology and innovation will enable agriculture to expand its food programme and also bio-materials, bio-energy and bio-pharmaceuticals, creating products that can compete on the basis of quality, safety and environmental attributes.

Teagasc continues to focus on improving the competitive position of Irish agriculture and agribusiness utilising the knowledge gained through its research programmes and transfer this to client stakeholders throughout the country.



Teagasc is prioritising the education programme and continues to invest in teaching facilities to cater for increased demand and to ensure students have an appropriate learning environment. In recent years decisions have been taken to invest in the colleges at Kildalton, Ballyhaise, Clonakilty and the College of Amenity Horticulture, Botanic Gardens.

The Teagasc Change Programme, the first phase of which was agreed by the Authority in 2009, is being implemented with significant progress made to date.

The Change programme when fully rolled out will leave the organisation leaner and fit for purpose in the current environment. Unfortunately this has meant the closure of 23 advisory offices and a reduction of nearly 300 in overall numbers. The land area being used for research has been reduced through the non renewal of farm leases and the sale of one farm.

A comprehensive People, Leadership and Change strategy within Teagasc has been adopted and will position the organisation to continue to provide leadership not just for the agriculture and food industries but also in the wider public sector.

Total Teagasc income for 2010 amounted to €165.44 million, excluding net deferred funding for pensions, down from €180.83 million in 2009. This was primarily due to a reduction in state funding and operational income. Current expenditure declined from €186.37 million, excluding net deferred funding for pensions, to €166.63 million and when combined with the movement in capital reserves of €4.578 million resulted in an overall outcome of + €3.387m for 2010.

There is a positive working relationship between Teagasc and the Minister Simon Coveney TD and his Department, led by the Secretary General Tom Moran. Teagasc is working closely with the Department of Agriculture, Food and the Marine along with industry stakeholders to implement the recommendations in the Food Harvest 2020 report. This is a favourable time for rural Ireland with an opportunity to grow, develop and increase the output and exports from the agri-food industry.

I would like to thank my colleagues on the Teagasc Authority and the Director, Professor Gerry Boyle, his management team and staff for their ongoing commitment and dedication to the organisation and the industry.



**Dr. Noel Cawley**

Chairman of the Teagasc Authority

# REPORT OF THE DIRECTOR



**I**rish exports of food and drink increased by 11% or €800 million, reaching €7.9 billion in 2010 and now account for 4.9% of total exports. Dairy exports were ahead by €300 million while meat and livestock exports were nearly €200 million higher. There is now a greater recognition of the contribution of agriculture to the Irish economy. The Food Harvest 2020 Report provides a blueprint for the future development of the agri-food sector and Teagasc is committed to playing its role in achieving the targets set.

## Education

The importance of the sector has always been recognised by farm families and this is reflected in the steady increase in the numbers of students participating in Teagasc courses and attending colleges to study agriculture, horticulture and other courses. Enrolments in colleges have increased by 80% since 2006. All colleges are at full capacity and unfortunately over 200 students could not be accommodated at our colleges. In summary, when all of the various programmes for future farmers are combined, the total number of enrolments were 1,673 and the total numbers participating in Teagasc programmes amounted to 3,256 in 2010. While the increase in student numbers is very positive, the loss of around 17 teaching staff since the introduction of the moratorium on public sector recruitment was introduced has created difficulties for the organisation in meeting the demand for college places.

Teagasc is involved with six Institutes of Technology, UCD and DCU in the joint delivery of 12 higher level programmes right up to Level 8 Honours Degree level. These linkages help to raise the standing of all our programmes and provide vital progression routes for those who want to advance from further level education through to higher level education.

## Food Research

Under the leadership of Paul Ross, Teagasc food research has been combined under one programme across the Ashtown and Moorepark sites. Teagasc and UCC have a long track record of collaboration in food research and in May 2010 this was put on a more formal basis with the establishment of a Teagasc/UCC strategic alliance. This arrangement gives the two institutions greater critical mass in research, combining the strengths of the two organisations to allow greater leverage from existing resources. The achievements of both Teagasc and UCC scientists in the fields of probiotics have been internationally recognised placing Ireland second in the world in this field. The Teagasc food research teams continue to develop ever closer links with food companies in the Irish food industry, in the areas of cheese, dairy ingredients, infant formula, meats and other areas.

## Animal and Grassland

The animal and grassland programme continues to contribute to the competitiveness of the Irish dairy, beef, sheep and pigs sectors. The contribution of Teagasc research in genomics has facilitated the roll out of genetic selection in the dairy sector and work on rolling it out in the other ruminant sectors is progressing.

In dairying the opportunities to increase milk production are being demonstrated through our work with new entrants, and expansion and development programmes with existing milk producers. The Greenfield dairy farm initiative in Kilkenny is showing what can be achieved from a start up situation.

In beef, Teagasc business and technology advisers are working with clients to increase production levels. The intensive advice delivered through the Teagasc/Farmers Journal BETTER farm beef programme has had an impact with profit and productivity increasing significantly on these commercial farms. Another exciting joint Teagasc /industry joint initiative in the beef sector is the establishment of calf to beef production systems for male calves from the dairy herd, at the Johnstown Castle research farm. The Derrypatrick suckler herd in Grange, now in its second year, is demonstrating the benefits of higher stocking rates in achieving higher gross margins.

### **Crops, Environment and Land Use**

In 2010, Teagasc proposed twenty-one amendments to the Draft European Communities (Good Agricultural Practice for Protection of Waters) regulation 2010 as part of the consultation process to review the nitrates regulations.

The detailed 120-page scientific document was submitted to the Department of Environment, Heritage and Local Government and to the Department of Agriculture, Fisheries and Food. Many of these recommendations were included in the National Action Programme under the Nitrates Directive, agreed between the Government and the EU Commission and are positive for both Irish farming and the environment.

Teagasc are involved in two significant international initiatives that aim to co-ordinate future research and policy needs in the area of greenhouse gas emissions: A Global Research Alliance, led by New Zealand and including many of the large countries like the US and India, has been established to coordinate research into GHG mitigation. Ireland (Teagasc and DAFM) sits on the Governing Board of the Joint Programme Initiative of the EU in Agriculture, Food Security and Climate Change, which pursues the same objectives at EU level.

### **Advisory**

The Teagasc advisory service has undergone substantial change over the last few years with reduced staffing levels and substantial office rationalisation achieved. The number of business units is reduced to 12 regional area units and the priority is to deliver

business and technology advice onto farms and education services to new and existing farmers. Over 40,000 farmer clients avail of the service while up to 100,000 farmers benefit from the public good activities of the service. The transfer of knowledge through discussion groups has proved to achieve higher levels of uptake and delivered higher profits onto those farms involved in discussion groups.

During the year, Teagasc undertook a comprehensive business process review, examining ways of improving business processes in the organisation. A new People Leadership and Change strategy was prepared to manage the human resource in the organisation during this period of change. I would like to thank all my colleagues in the organisation for their hard work and commitment during the year and for the significant research, advisory and education contributions they have to the Irish agriculture and food sectors.

### **Professor Gerry Boyle**

Director





# TEAGASC – THE AUTHORITY



From Left To Right.

1. **MR. FRANK O'MAHONY** – Macra na Feirme Nominee, 2. **MR. JOE FITZGERALD** – ICMSA Nominee.
3. **MS. MARGARET SWEENEY** – Minister's Appointee, 4. **MR. TOM COLLINS\*\*** – Minister's Appointee.
5. **MR. PADRAIG GIBBONS** – ICOS Nominee, (Joined Jan 2010), 6. **DR. NOEL CAWLEY** – Chairman - Teagasc.
7. **PROF. PATRICK FOTTRELL** – Minister's Appointee, 8. **MS. MARIE CHRISTIE\*\*\*** – Staff Representative.
9. **MR. EDDIE DOWNEY\***- IFA Nominee, 10. **MR. JAMES J BRETT** – Minister's Appointee, 11. **MR. MARTIN HERAGHTY** - Minister's Appointee.

\* (Joined Jan 2010 replacing Mr. Derek Deane.), \*\* (Joined Jan 2010), \*\*\* (Joined August 2009 replacing Mr. Stephen Flynn.)

## Attendance at Authority Meetings

NAME	13-Jan	03-Feb	03-Mar	07-Apr	05-May	01-Jun	07-Jul	01-Sep	04-Oct	03-Nov	14-Dec
Cawley, Dr. Noel, Chairman	●	●	●	●	●	●	●	●	●	●	●
Brett, Mr. James	●	●	●	●	●	●	-	●	●	●	●
Christie, Ms. Marie	●	●	●	●	●	●	●	●	●	●	●
Collins, Mr. Tom	-	●	●	●	●	●	●	●	●	●	●
Deane, Mr. Derek*	●	-	-	-	-	-	-	-	-	-	-
Downey, Mr. Eddie	-	●	●	●	-	●	-	●	●	-	●
Fitzgerald, Mr. Joe	●	●	●	●	●	●	●	●	●	●	●
Fottrell, Professor Patrick	●	●	●	●	-	●	●	●	-	●	●
Gibbons, Mr. Pdraig	-	●	●	●	●	●	●	●	●	●	●
Heraghty, Mr. Martin	-	-	●	-	●	●	●	●	●	●	●
O'Mahony, Mr. Frank	●	●	●	●	●	●	●	●	●	●	●
Sweeney, Ms. Margaret	-	●	-	-	●	●	-	●	●	●	●

\*Mr. Eddie Downey replaced Mr. Derek Deane effective from the February Authority meeting.

# TEAGASC AUTHORITY COMMITTEES

## Advisory and Education Committee

### Mr. Frank O'Mahony (Chairman)

Mr. Eddie Downey  
Ms. Marie Christie  
Mr. Joe Fitzgerald  
Mr. Pdraig Gibbons

## Research Committee

### Prof. Patrick Fottrell (Chairman)

Mr. Tom Collins  
Mr. Frank O'Mahony  
Ms. Marie Christie

## Finance & HR Committee

### Mr. Martin Heraghty (Chairman)

Dr. Noel Cawley  
Ms. Marie Christie  
Mr. James Brett  
Mr. Joe Fitzgerald

## Audit Committee

### Mr. James Brett (Chairman)

Ms. Margaret Sweeney  
Dr. Noel Cawley  
Mr. Martin Heraghty

Status January 2010

## Attendance at Committee Meetings 2010

### Audit Committee

	03-Mar	01-Jun	12-Oct	14-Dec
Brett, Mr. James	●	●	●	●
Cawley, Dr. Noel	●	●	●	-
Heraghty, Mr. Martin	●	●	●	●
Sweeney, Ms. Margaret	-	●	●	●

### Adisory & Education Committee

	08-Mar	15-Jun
O'Mahony, Mr. Frank (Chair)	●	●
Fitzgerald, Mr. Joe	●	-
Downey, Mr. Eddie	-	●
Gibbons, Mr. Pdraig	●	-
Christie, Ms. Marie	●	●

### Finance Committee

	12-Oct
Heraghty, Mr. Martin (Chair)	●
Cawley, Dr. Noel	●
Fitzgerald, Mr. Joe	●
Brett, Mr. James	●
Christie, Ms. Marie	●

*Note: This schedule of attendance at meetings is provided in accordance with paragraph 3.8 of the Code of Practice for the Government of State Bodies dated June 2009.*

# TEAGASC – SENIOR MANAGEMENT



**PROFESSOR GERRY BOYLE**  
Director



**DR. FRANK O'MARA**  
Director of Research



**DR. TOM KELLY**  
Director of Knowledge  
Transfer



**MR. TOM DOHERTY**  
Chief Operating Officer



# ORGANISATIONAL CHART

January 2010



# TEAGASC OFFICES AND CENTRES



Status End of December 2010



# GOAL 1

Improve the competitiveness  
of agriculture, food and the wider  
bio-economy



## ADVISORY PROGRAMME

### DAIRY

#### Advice

The Teagasc dairy programme aims to improve: profit on dairy farms; compact calving; grass silage utilisation; milk quality. Advisers completed over 1,500 profit monitor assessments and conducted over 8,200 farm visits (and a total of over 18,600 consultation) for over 10,100 dairy clients.

A total of 357 groups with over 6,000 members were facilitated and each group met on average 9 times. To assist farmers to examine all options to improve income and efficiency on and off farm over 600 OPTIONS plans were completed. More than 8,800 SPS applications were completed for dairy farmers.

#### Dairying: Entering a Decade of Opportunity

The Dairy Efficiency Programme introduced by the Department of Agriculture, Food and Fisheries early in 2010 doubled the number of farmers involved in discussion groups.

Taking two farmers from the Teagasc National Farm Survey, identical in terms of their size, the location of their farm, soil type, stocking rate etc., the economic return to being a member of a discussion group is approximately €200 per hectare.

Discussion group members are more likely to adopt new production technologies. They tend to have a longer grazing season, use purchased feed more efficiently, with almost 90% of

members using Artificial Insemination, and 40% using the newer technology of insemination with genomic bulls compared to the national average of 19%. Discussion group member's farms tend to have higher stocking rates and produce more milk per hectare.

As stated above Teagasc advisers played a huge role in facilitating discussion groups.





### **Teagasc Open Day on 'Greenfield Dairy Farm.'**

An Open Day for all farmers on a 'New Greenfield Dairy Farm' in County Kilkenny took place in 2010. This new dairy demonstration farm is a collaborative project between Teagasc, Glanbia, Agricultural Trust (Irish Farmers' Journal), FBD Trust, AIB and the Phelan family (farm owners). The farm is part of the Teagasc BETTER Dairy Farm Programme to provide family dairy farmers with the skills and technologies to expand milk production in a financially rewarding scenario, once EU milk quotas are abolished in 2015.

### **New Milk Quality Initiative**

CellCheck is a new joint initiative involving Animal Health Ireland, Teagasc, DAFF, Veterinary Ireland, UCD and ICBF, along with industry partners in the co-ops. It involves a campaign to maintain and improve milk quality on farms as the industry enters an expansionary phase.

This new initiative is a partnership between farmers, vets, advisers, dairy technicians, co-op personnel and all those who have a role to play in ensuring high quality milk is produced which in turn will increase the profitability of both the dairy milk processors and Irish farmers.





## Expanding Family Dairy Farm

Young dairy farmers are preparing their businesses to survive and prosper into the future by expanding milk production. The predominant model for expansion will be from existing family-run dairy units and one such young farmer opened his farm in June for others to see expansion plans for the years ahead.

Daniel and Amy O'Donnell, from Knockaunacuit, Cappoquin, County Waterford aim to increase from 65 to 100 milking cows, on a challenging, upland grassland farm, located at the foothills of the Knockmealdown mountains.

This Waterford family farm is part of the BETTER dairy farm programme, in which Teagasc, Glanbia, FBD, the Department of Agriculture, Fisheries and Food, AIB and the Irish Farmers' Journal are involved.

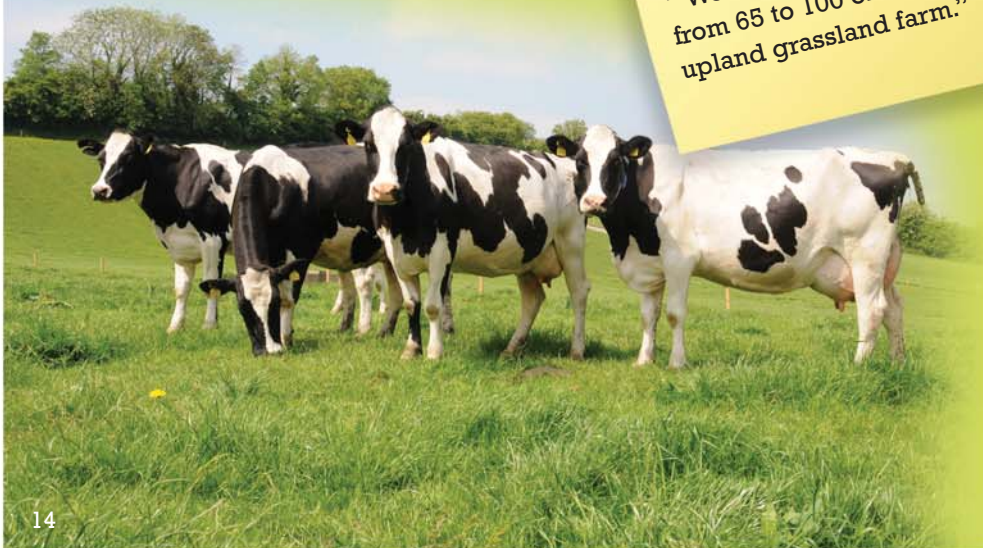
Over the next five years Teagasc will provide intensive technical support to this dairy farm. The objective of the project is to demonstrate a financially profitable milk expansion programme including a five year farm development plan; Adoption of key technologies in relation to grassland management, increased use of high EBI genetics and improved herd health status and Improved farm infrastructure in relation to soil fertility, drainage, farm roadways and reseeded and a detailed financial plan.

### Client Profile:

Daniel and Amy O'Donnell,  
Knockaunacuit,  
Cappoquin,  
Co. Waterford

Dairy Farmer

"We aim to increase cow number from 65 to 100 on a challenging, upland grassland farm."







## **BEEF and SHEEP**

### **Beef**

Profitability on beef farms is being improved through the BETTER farm beef programme. At the end of 2010 there were 18 participating farms with an average gross margin of €438/ha up 13.5% on 2009. All have discussion groups linked to them. There are weekly reports from these farms in the Irish Farmers Journal.

Teagasc advisers facilitate 70 cattle discussion groups with a total of 329 meetings. In addition 10 breeding groups were facilitated in 2010 and 82 additional farm walks attracted an attendance of 5841. Fifty five cattle seminars/meetings were also delivered by Teagasc advisers.

A total of 411 profit monitors were completed for cattle farmers.

### **Sheep**

There were six farms participating in the BETTER farm sheep programme by the end of 2010. In addition Teagasc advisers facilitated 30 sheep discussion groups with a total of 131 meetings held. More than 2,500 farmers attended 47 sheep farm walks/demos and 38 sheep seminars attracted an attendance of 2,489. A total of 150 profit monitors were completed for sheep farmers.







## **ANIMAL AND GRASSLAND PROGRAMME**

### **Alternative Forages**

Forage brassicas and fodder beet can provide high dry matter yields with excellent forage quality over the winter for in situ utilisation. The results suggest that in situ utilisation of forage brassicas and fodder beet had no negative/deleterious effects on dry cow performance pre and post partum. The outcome of the research programme has highlighted the benefits of forage brassicas for dairying systems through potential reductions in fixed and variable costs.

### **Grass based milk production systems for regions of high rainfall and heavy clay soil types**

This study showed that dairy milk production systems with low stocking rates can be viable in regions with high rainfall and heavy clay soils. Key aspects to profitable milk production are compact calving with a high EBI herd, targeting high grass utilisation with the use of on/off grazing, strategic concentrate supplementation and minimising the purchase of imported feed.

Stocking rates used in wetland regions must be appropriate to minimise the importation of bought in feed. The economically optimum system of milk production in this study did not vary depending on milk price, the lower stocking rate system are less exposed to the cost of imported feed, higher stocking rate systems are exposed irrespective of milk price to high feed costs.





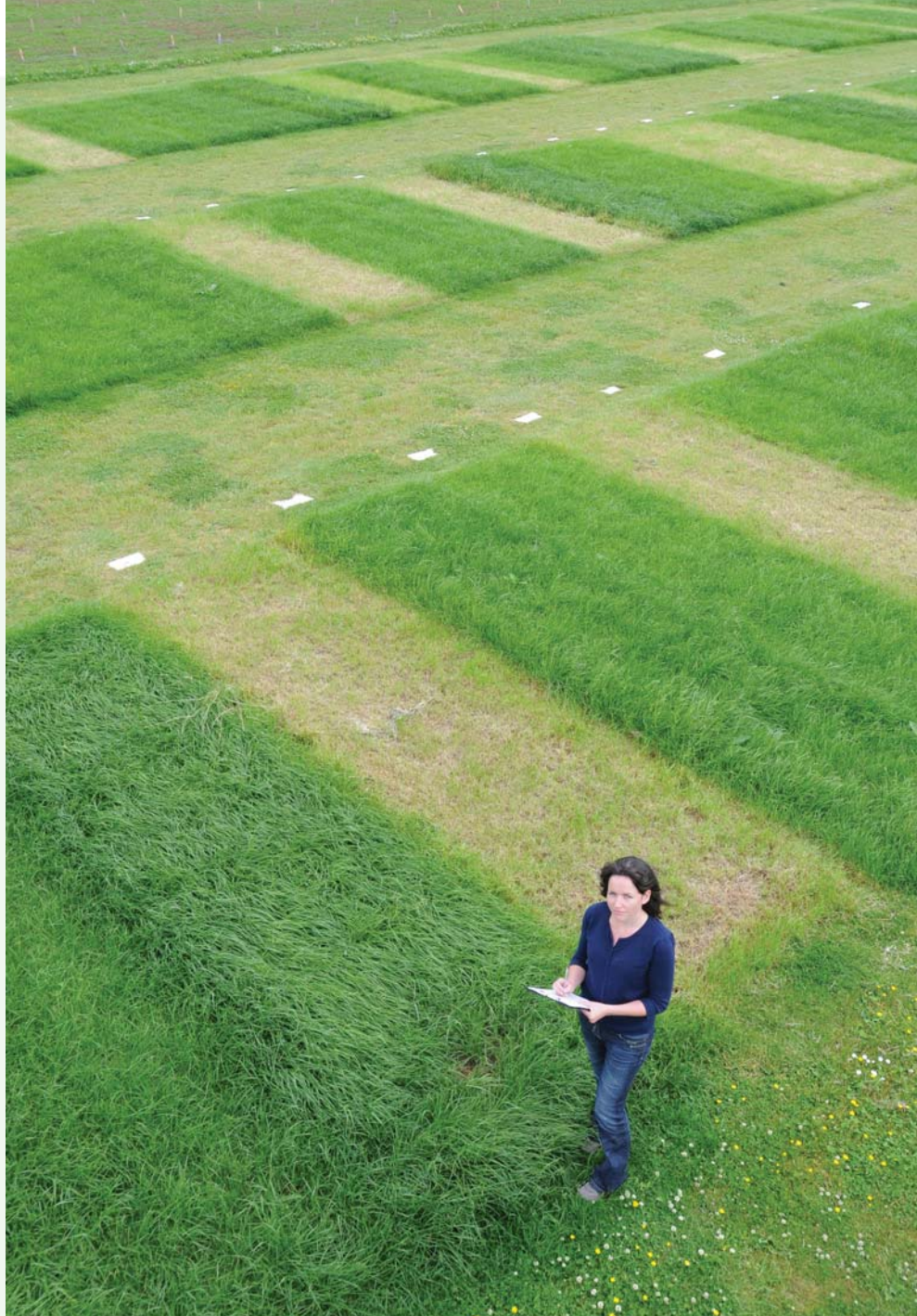
*Mary McEvoy,  
Research Officer  
at Moorepark.*

## **Feed Efficiency in Beef Production**

The biological efficiency of producing beef from the suckler herd is relatively low, with a large maternal cost to production. The suckler cow accounts for about half of the annual feed costs in suckler calf-to-beef systems. Some individual animals are more efficient, eating less for the same output. Scientists at Teagasc Animal and Grassland Research and Innovation Centre, Grange are now looking at new ways to identify the most efficient animals and build a beef breeding programme around it.

Researchers are investigating Residual Feed Intake (RFI) as a measure of feed efficiency that is genetically independent of growth and body size. It is defined as the difference between an animal's actual feed intake and what its predicted feed intake should be, based on bodyweight and level of performance.

Teagasc and UCD are currently jointly researching the links between RFI and genetic or biochemical markers of the trait. This collaborative project is examining biological control of RFI in cattle with a view to identifying some more easily measured indicators of the trait. Results to date show significant differences between efficient and non efficient animals in the expression of genes controlling the synthesis of cellular energy.



## **GRASS**

### **Breeding Advances in Grass Varieties**

There are huge opportunities to grow and utilise more grass in Ireland. A Teagasc organised international conference - 'Grasses for the Future' taking place in Cork in October heard how grass dry matter production can be increased using newer grass varieties. International grass breeders outlined how up to 18.5 tonnes of grass dry matter per hectare can be produced annually. Currently in Ireland we utilise about 7.9 tonnes of grass dry matter per hectare on dairy farms, with lower amounts utilised on beef farms.





## Staff Profile

### FOOD PROGRAMME

#### Strategic Alliance in Food Research

A major step towards establishing a single food research programme in Ireland to support innovation and development in the food industry was taken with the launch of the UCC/Teagasc Strategic Alliance in Food Research.

The Alliance will focus on three thematic areas namely: food and health, food science and technology and food and the consumer. The resources of both organisations will be deployed to build a common food research and innovation programme.

More than 250 researchers, post doctorates, and post graduates are currently working across a wide variety of disciplines in food science, food technology, nutrition, food for health and food business. The Alliance creates the opportunity to share the research infrastructure and facilities such as the pilot scale food processing facilities at Moorepark Technology Ltd and at Teagasc Ashtown, the UCC processing hall and the new PRTLl-supported GMP manufacturing facility at UCC.

#### Matt McGuinness, Technical Analyst, ICT Department, Kinsealy

*A native of Rush in north county Dublin, Matt is from a farming background. He gained a degree in Computer Science from UCD and joined Teagasc (An Foras Talúntais) in 1986. He initially worked in research in the area of crop growth modelling before moving into an ICT support role. Matt joined the new-look Teagasc ICT Department in 2004 as Technical Analyst.*

*Currently Matt's main role is as server manager. Teagasc has over 200 servers which are critical to the operation of the organisation. These servers host a large range of services and applications to Teagasc staff and clients. General services to all staff include file storage and document management, email, internet access, etc. More specific in-house services would include financial and human resource management systems.*

#### Staff Profile:

**Matt McGuinness,  
Technical Analyst,  
ICT Department,  
Kinsealy**

#### Client Impact.

*Many Teagasc research projects, such as in the areas of genetics, bioinformatics and geographical information systems rely heavily on the processing power of high performance servers. Teagasc servers also host a range of Web based services to our clients, including the Teagasc corporate website and the Teagasc Client Site, through which client farmers have access to a range of information*



## Improving Health with Functional Foods

Foods have an enormous role to play in keeping people healthy and many foods have properties that can enhance the health of those that consume them. A 'functional food' is one that serves a purpose beyond basic nutrition, promoting health or reducing the risk of certain diseases. The global market for functional foods is expected to increase to €14.7 billion by 2013.

The USA/Ireland Functional Foods conference 2010 organised by Teagasc, University College Cork and the United States Department of Agriculture, focussed on the science of gut function and the response to diet. It addressed gut hormones and incretin (which causes an increase in insulin release) release, gut microbiota (microbial make-up) for optimal gut function, diet and immune function and biomarkers for enhanced health through diet.

## Residues in milk and meat

An analytical test has been developed to detect all of the major anti-parasitic drug residues for the first time. The technology has been comprehensively validated according to International guidelines and was accredited to ISO 17025 standard.

The technology has been since applied to some 3,000 test samples.

The technology has resulted in the identification of a new group of residues in milk and meat samples for the first time. Nitroxylnil, closantel, triclabendazole and rafoxanide residues were detected in milk at low levels.



*Pictured at the launch of the Teagasc/UCC Strategic Alliance in Food Research are Mr. Michael Dowling, Chairman, Teagasc/UCC Alliance Steering Group; Minister for Agriculture, Fisheries and Food, Mr. Brendan Smith; Professor Gerry Boyle, Teagasc Director and Mr. Michael Murphy, President, UCC.*

However, with setting of provisional Maximum Residue Limits (MRLs) for some flukicides in milk should reduce this problem from 2011 onwards.

The main recommendation for primary processors is that flukicide residues should be monitored in milk particularly during the spring period post-calving.

## Biocontrol of Verocytotoxic Escherichia coli at key stages of the beef chain

Verocytotoxic Escherichia coli (VTEC), particularly serotype O157:H7 are a major food safety concern worldwide.

There is a need for targeted controls against E. coli O157 at key points of the beef chain coupled with a demand for natural biological controls, due to increased consumer resistance to use of chemicals. This project evaluated the use of three different types of biocontrol agents for their antimicrobial activities against VTEC.

The key finding from the study is that biocontrol agents (particularly phage and carvacrol) show real potential as novel controls against E. coli O157:H7 at key stages of the beef chain and further research on their development and application is being pursued.



## **EDUCATION PROGRAMME**

### **College Enrolments**

College enrolments increased again in 2010 by two percent compared to 2009 which represents an 80% increase since 2006. In 2010 all colleges were at full capacity and had to turn away students. The number of students who did not obtain a place amounts to over 230. A number of these students were catered for in the part-time Advanced Certificate in Agriculture courses. It should also be pointed out that these figures are 2010/2011 enrolments and do not reflect the total numbers attending colleges as all college courses are of either

two or three years duration. The total numbers attending colleges amounts to 2,249.

### **Advanced Certificate in Agriculture for Part-time Farmers**

In addition to the full-time courses held at colleges there is also a comprehensive programme of Advanced Certificate in Agriculture Courses for Part-time Farmers throughout the country. These courses are held largely at night and weekends in order to facilitate part-time farmers. The syllabus is the same as for the full-time courses and the courses are generally of two to three years duration.

### **Online ACA Courses**

In addition to the above programmes, a further 340 part-time farmers are completing the Advanced Certificate in Agriculture (Level 6 Award Holders) online. These courses are run largely through the RECs with support from the agricultural colleges for skills training and with support from advisory colleagues in the areas of tutoring and discussion group facilitation.

*Lecturer James Ryan (left)  
with students at Teagasc, Kildalton.*



### Schedule of Advanced Certificate in Agriculture Courses for Part-time Farmers

REC/College	Year of Course	Number of Students
Galway/Clare	1	32
Mayo	1	27
Sligo/Leitrim/Donegal	1	39
Wicklow/Carlow/Wexford	2	39
Ballyhaise	2	30
Roscommon/Longford	2	26
Galway/Clare	2	15
Sligo/Leitrim/Donegal	2	32
Sligo/Leitrim/Donegal	2	31
Kerry/Limerick	3	24
Cork	3	24
Cork	3	26
Gurteen	3	52
Galway/Clare	3	28

In addition to the above courses it is planned to commence six new first year programmes in 2011.

### Advanced Certificate in Agriculture (Level 6 Award Holders)

A further 243 part-time farmers are also participating in the Advanced Certificate in Agriculture (Level 6 Award Holders). These courses replace the old 180 hour courses but are much more comprehensive in nature following the Forum Review of Teagasc's Education Provision.

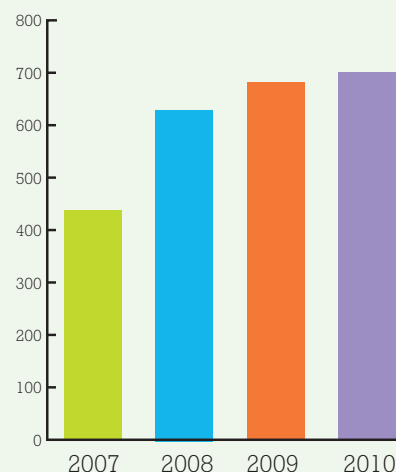
### Schedule of Advanced Certificate in Agriculture (Level 6 Award Holders) Courses

REC/College	Year of Course	No of Participants
Kerry/Limerick	1	28
Cork	1	22
Roscommon/Longford	1	8
Galway/Clare	1	30
Kerry/Limerick	2	28
Cork	2	20
Wicklow/Carlow/Wexford	2	28
Tipperary	2	24
Ballyhaise	2	24
Galway/Clare	2	31

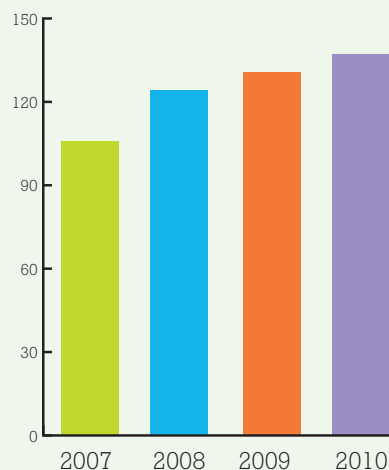
### Total Participation Rates

In summary, when all of the various programmes for future farmers outlined above are combined the total numbers participating in these programmes amounts to 3,256.

Education Enrolments and Participation Rate Agriculture



Education Enrolments and Participation Rate Horticulture







### Staff Profile:

**Dr. Veronica Nyhan,  
Lecturer,  
Kildalton Agricultural  
College**

Originally from Clonakilty, Veronica graduated from University of Limerick in 2000 with a B.Sc. (Education) degree. From this she joined Teagasc as a Walsh Fellowship student undertaking a Phd thesis examining soil fertility issues on the organic farming unit at Johnstown Castle. Following the completion of her thesis, Veronica worked in the secondary school system teaching Leaving Cert Biology and Agricultural Science before rejoining Teagasc in 2006 as a lecturer in Kildalton Agricultural College.

*Today, Veronica teaches a variety of subjects including soil management and environmental policy at Level 5 up to nutrient management planning and crop nutrition at Level 8 in conjunction with Waterford Institute of Technology*

*Since joining Teagasc in 2006 Veronica has seen some significant changes at Kildalton. "The demand for Teagasc courses has increased by up to 70% since I started working here in 2006. We are now seeing a new energy and enthusiasm for farming amongst our students. I think now more than ever, the younger generation view the future of farming as a challenge that they are very eager to undertake and, from working with them on a day to day basis, I am confident in their capabilities to grow their business in a financially and environmentally sustainable way".*

**Client impact:** *"In Kildalton we focus as much on the practical as the theoretical aspects of agriculture, with a view to developing a very well rounded individual in terms of knowledge and ability".*

## ADVISORY PROGRAMME

### FORESTRY

The Teagasc forestry programme aims to increase the efficiency and profitability of new farm forests and to increase the value of both conifer and broadleaf forests through guided management intervention.

Guided by Key Performance Indicators, progress in 2010 was achieved by introducing new financial evaluation software for forestry advisers; holding national conifer (attendance 970) and broadleaf (attendance 450) demonstrations. Conifer farm walks attracted 323, and broadleaf farm walks attracted 223 attendees.

Forestry advisers also conduct national demonstrations, farm walks, FEPS courses, 639 site visits and facilitated the establishment of 18 producer groups.

### HORTICULTURE

The horticulture group which serves producers of mushrooms, vegetable crops, Nursery stock and soft fruit had a total of 457 contracted clients in 2010 and conducted over 700 visits and developed 93 business plans and 12 seminars.

## CROPS ENVIRONMENT AND LAND USE PROGRAMME

### FORESTRY

Research into conifer and broadleaf silviculture are conducted within the Forestry Programme and used to produce forest management blueprints. Research is also conducted to improve the genetic quality of planting materials available to the industry for example through the establishment of an Alder clone bank

### HORTICULTURE

The horticulture programme includes research into mushrooms, strawberries and nursery stock. Ongoing research projects include phytochemicals in vegetable crops and potatoes; enhancing the nutrient content of brassicas; biocontrol in a range of crops; and trichoderma in mushrooms.

## PIGS

The Pig Development Programme underpins the Irish pig industry through research advice and training.

### ADVICE AND TRAINING

The pigs group conducted 325 farm visits, completed 40 business plans and delivered 20 building designs for clients. Two conferences were also delivered. Two FETAC level 6 courses in Pig Production were delivered, 10 training workshops in Moorepark and Ballyhaise as well as 12 stand-alone training workshops.

### ANIMAL AND GRASSLAND RESEARCH AND INNOVATION PROGRAMME

Ongoing research covers muscle development, manure management, effect of phosphorus on bone development, immune function in pigs, energy production from pig manure and safety evaluation of GM food ingredients.











# GOAL 2

Support sustainable farming  
and the environment

## CROPS ENVIRONMENT AND LAND USE PROGRAMME

### First Ever Land Cover and Habitat Map of Ireland

In 2010 Teagasc produced the first high resolution national land cover and habitat maps of Ireland. Produced as part of the Teagasc/ EPA Digital Soil and Subsoils project, these two maps provide a basis for the analysis of land cover change.

Using state-of-the-art techniques classified satellite images into different types of land cover and habitats. Space borne sensors, such as the LANDSAT Thematic Mapper used in this project, can record images across large geographic areas and in parts of the electro-magnetic spectrum that human eyes cannot see. Thirteen images were used in the project to cover the country in mapping areas as small as one hectare into classes such as "Mature Forestry" and "Wet Grassland".

This project shows the enormous potential for the use of satellites in monitoring land use, agriculture and the wider environment.



*A MODIS "true colour" satellite image of Ireland courtesy of NASA, with an inset showing part of a "false colour" SPOT 5 image. The false colour image, so called because it uses light reflected in the "very near infra red", which our eyes cannot see but which vegetation reflects very strongly, shows up differences in vegetation with much greater sensitivity than the "true colour" image that we are used to seeing.*





### **Monitoring the environmental impacts of the Rural Environmental Protection Scheme**

Since its inception in 1994, there has been strong demand for evidence of the environmental effectiveness of the Rural Environment Protection Scheme (REPS), which paid farmers over €3 billion by 2010. This desk study aimed to support decision-making about the appropriate design and implementation of an environmental monitoring programme for Irish agri-environment schemes.

Overall, the environmental monitoring of selected REPS measures, supplementary measures, biodiversity options and Measure A is estimated to cost about €3.4 million over a four year period. The average annual budget for the monitoring programme (€0.86m) would be about 0.25% of annual expenditure on REPS.

There is strong overlap in the identity of measures between REPS and the new AEOS agri-environment scheme implemented in 2010. Thus, an assessment of the environmental impacts of REPS could be used to more quickly measure the environmental effectiveness of similar measures that are implemented in the AEOS (or future schemes with the same measures).

Demonstration of the environmental impacts of both the REPS and AEOS is important for the long-term justification of expenditure on such schemes. Monitoring can identify benefits, but it can also help identify and rectify any weaknesses, and thus help to improve the schemes. More importantly, the positive environmental effects of schemes can be identified and communicated to farmers, and to the public.

### **Cereal Grains and Crop Residues as Feedstocks for Combustion**

The project established that a wide range of biomass feedstocks can be burnt in boilers. The most difficult materials to burn are those which exhibit properties of high moisture, low bulk density and poor flow properties. However, these properties can be mitigated by drying and densification. Materials with low ash melting points such as Miscanthus need to be combusted in boilers which employ either flue gas recirculation, water cooled grates or mechanical agitation of clinker.

Successful combustion of cereal grains depends on species, agronomic practice and moisture content. Oats and triticale can be successfully combusted at moisture contents below 20%, other grain species are less suitable for combustion. The cultivation of cereals for combustion should ensure that grain nitrogen levels are as low as possible in order to avoid high emissions of oxides of nitrogen from combustion.





## Benefiting Farmers and the Environment

### Soil mapping

The Irish Soil Information System (ISIS) project which is lead and managed by Rachel Creamer at Teagasc Johnstown Castle has as its aim the completion of the soil map of Ireland to a scale of 1: 250,000 (ca one inch to four miles). The project builds on the work of An Foras Taluntais which produced detailed soil maps for 44% of the country.

Whereas the AFT maps were produced exclusively from an intensive field sampling programme, ISIS combines cutting edge spatial mapping technology with traditional field surveying to produce the new maps.

The new maps will provide the basis upon which future research can build to provide better soil specific nutrient advice while meeting with the requirement to have such soil information available to the public as recommended by EU legislation.

The ISIS team pictured on Nicholas Bielenbergs farm at Munny House, Tullow, Co. Carlow.

“ISIS is breaking new grounds nationally and internationally for the farming sector and for scientists. It will provide the knowledge and data that will help us manage our soil resources productively and sustainably”

Professor Gerry Boyle

The ISIS team pictured on the farm of Nicholas Bielenberg (centre) near Tullow, Co Carlow.





### **New Willow and Miscanthus Guidelines**

At the National Ploughing Championships in Athy Minister for Agriculture, Fisheries and Food, Brendan Smith and the First Minister for Agriculture in Northern Ireland, Michelle Gildernew launched 'Best Practice Guidelines' for willow and miscanthus growers. The guidelines were produced jointly by Teagasc and the Agri-Food and Bioscience Institute (AFBI), Northern Ireland. The 'Best Practice Guidelines' will be updated on a biannual basis as new research findings and information becomes available from both the Teagasc and AFBI research programmes.

### **Green Biorefinery**

Teagasc researchers in association with Wageningen University and Research Centre, The Netherlands, have investigated the use of grassland biomass for the production of energy and chemicals, or green biorefinery (GBR).

Results from the study suggest that the ideal catchment area for a GBR is 700-800ha depending on biomass availability within the catchment area, the availability should be in excess of 30 % in order to contain transport costs.

The viability of GBR will be highest in areas that have experienced declining livestock numbers and lower farm income, particularly areas that support a higher proportion of non-dairy farms. These areas have a higher potential availability of surplus grass biomass. This would mean that the GBR would not have to compete with the traditional agricultural commodities.

Partners in this ongoing project are University College Cork (UCC) and Queen's University Belfast (QUB).

### **Designer probiotics to reduce obesity**

Scientists from the Alimentary Pharmabiotic Centre (APC), Cork, University College Cork and Teagasc, have engineered a strain of Lactobacillus to produce a version of a molecule called conjugated linoleic acid (CLA).

When this engineered bacterial strain was fed to mice, the researchers found that the composition of the mice's fat tissue was significantly altered, demonstrating that ingesting live bacteria can influence metabolism at remote sites in the body.

CLA is a fatty acid that is produced in different versions by different bacteria. One type, called t10, c12 CLA, has been shown to be associated with decreased body fat in humans and other animals. t10, c12 CLA also has the ability to inhibit the growth of colon cancer cells and induce their death.







#### Staff Profile:

**Sinead McParland  
Research Officer,  
Moorepark**

Sinead McParland is a Research Officer at Teagasc Moorepark investigating methods to improve the balance of fatty acids in milk from dairy cows.

Having joined Teagasc as a Walsh Fellow in 2005 Sinead McParland, from Dublin, completed a PhD in 2008 in which she looked at Inbreeding in Irish dairy and beef cattle. In 2009 Sinead accepted a position as a researcher working on a project entitled 'Robust Milk' funded by FP7.

The objective is to find technologies which could enable breeders to identify and breed cows that produce healthier milk, while the cows themselves stay healthier.

#### Client impact:

By investigating, and potentially breeding, for different types of fat produced by dairy cows, researchers hope to increase the health-giving properties of milk for consumers.

## RURAL ECONOMY AND DEVELOPMENT PROGRAMME

### National Farm Survey 2010

The Teagasc National Farm Survey income results for 2010 are based on a total sample of 1,050 farms.

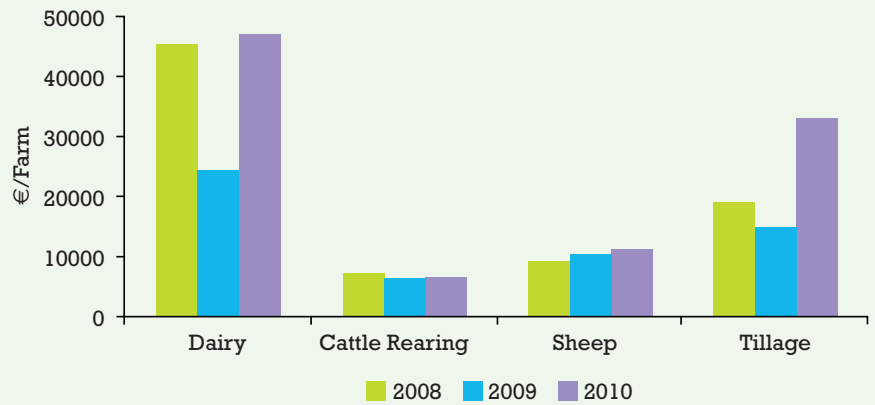
The preliminary estimates showed that average farm income increased by 46% in 2010, bringing the average income figure for the farming sector in 2010 to €17,771. This increase in income represented a recovery to 2008 levels when average income in the sector was €16,993.

The income results revealed the mixed fates of the various farm sectors in 2010. The average income on dairy farms increased by 81% in 2010, to €44,432. Dairy farmers benefited from an almost 30% increase in milk prices in 2010 and this coupled with only modest increases in costs delivered significant income gains. Income increases were highest on tillage farms, with farmers benefiting from the substantial recovery in global grain markets as well as a good harvest. Income on specialist tillage farms increased by almost 141% from 2009 to 2010 to an average of €36,759.

There was little improvement in cattle and sheep incomes in 2010. These drystock farms, that represent the majority of Ireland's farming population, experienced an increase in income of eight percent. Average income on cattle rearing farms increased by just seven percent bringing the average income to €7,023. Cattle farmers continue to be highly reliant on subsidies and in 2010 direct payments contributed over 50% of total farm gross output on these farms. Income on sheep farms increased by 15%, to an average of €12,269 in 2010. Sheep farmers benefited from higher lamb prices as well as the introduction of the new Sheep Grassland Payment.

The average sector income of €17,771 represents all systems and sizes of farms, but this average conceals a large variation in income across the different farming enterprises. Average income on the more commercial full-time farms, -of which there are about 30,000, was €41,624 in 2010. Approximately 12,500 farmers earned a farm income of €40,000 or more in 2010.

The NFS results show that farmers also fell victim to the recession in 2010 as the number of farm households that have an off-farm income declined. For the first time since 2003, the number of farm households where the farmer and/or the spouse works off the farm declined to 51%.



Despite the substantial recovery in farm incomes in 2010, almost 40% of farm households, or 37,000 households, remain in an economically vulnerable position, meaning that the farm business is not economically viable and neither the farmer nor the spouse works outside of the farm.

*Dr. Thia Hennessy, Brian Moran and Dr. Frank O' Mara at the launch of the National Farm Survey Results 2010.*











# GOAL 3

Encourage diversification of  
the rural economy and enhance  
the quality of life  
in rural areas





## ADVISORY PROGRAMME

### Teagasc Options Seminars for Farmers

A nationwide series of ten Options Seminars were conducted in 2010 by Teagasc advisory areas to allow farm families to explore possible alternative enterprises. A new Teagasc-designed farm household income ready-reckoner gives a picture of the farm family income which acts as a foundation in the examination of each individual's present income and family situation.

This allows an assessment of the potential of the farm and the family to pursue the many possible options to generate more income and create a viable and attractive future for a successor on the farm. Teagasc advisers and specialists, together with representatives from other agencies including LEADER, County Enterprise Boards were present at each of the seminars.



*Pictured launching a nationwide series of Teagasc Options Seminars for farmers, on the farm of Joe Hayden in County Wicklow are (from left): Joe Hayden, Tinahely; Maria Heneghan, Teagasc; Prof. Gerry Boyle, Teagasc Director; John Keating Wicklow/Carlow/Wexford Advisory Area Manager; Dr. Cathal O'Donoghue, Teagasc.*







**Client Profile:**

**Trevor Harris,  
Cooltrim, Donadea,  
Naas,  
Co. Kildare  
Organic Farmer**

**“Organic farming is challenging  
but it works for us both practically  
and organically.”**

While still a niche, organic production is growing and is up by 50% in the last three years. Trevor Harris now operates an organic farm with his wife and five young children in north county Kildare. In the late 1990s

Trevor had lengthy discussions on potential demand and prices for organic cereals, beef and lamb with his local Teagasc adviser. Now Trevor grows a range of tillage crops organically with input from Teagasc organic production specialists.

“Organic farming is challenging but it works for us both practically and organically,” concludes Trevor





### Marketing Lamb

The Mayo Mule and Greyface sheep group is facilitated by Teagasc adviser John Noonan. The group has moved from being a largely production focussed group to targeting direct marketing of Mayo under the title Lamb Direct.

"A high percentage of native blackface mountain in the breeding of lambs gives the product extra flavour and texture says John Noonan. Along with Teagasc, Bord Bia have provided advice to the farmers and the local Leader company grant-aided a feasibility study. "These farmers want to have more control of the product that leaves the farmgate as they know it is high quality and they want the consumer to get better value for money too."

Research carried out by Bord Bia indicates that people prefer to buy local produce and this is borne out by demand since the launch.

### Ring of Kerry Quality Lamb

This is a group of over 25 sheep Farmers who live around the Ring of Kerry, motivated by a common commitment to quality and a drive to keep their enterprises sustainable they decided in Spring 2009 to come together as a group to market their lamb directly.

They have partnered with local butchers, and together can guarantee the highest quality product from an environmental and welfare perspective on farm, to processing and packaging.

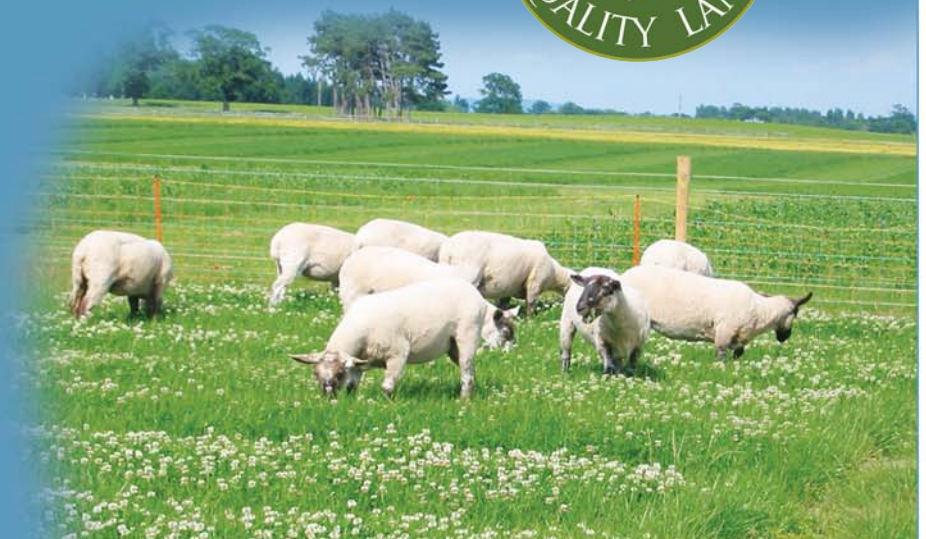
### Client Profile:

The Mayo Mule and Greyface Sheep Group

### Lamb Direct

"These farmers want to have more control of the product that leaves the farmgate as they know it is high quality and they want the consumer to get better value for money too."

John Noonan, Teagasc, Wexford.





## **RURAL ECONOMY & DEVELOPMENT PROGRAMME**

### **Income volatility**

Substantial price volatility was experienced by dairy and crop farms between 2007 and 2009. New methods, both public and private, will need to be considered in an effort to manage this volatility in the future. Based on National Farm Survey data for 2006 only nine percent of the variation in production costs on dairy farms was accounted for by farm size, so it can be concluded that it is not the most important driver of cost efficiency on dairy farms.

The importance of the scale of operations proved to be of particular interest on tillage farms. The analysis showed that increasing returns to scale are present in the tillage sector.

This result shows that larger farms are more efficient. The degree of specialisation will also be an important issue for the competitive future of Irish cereal farming. Higher levels of specialisation lead to higher efficiency levels in the tillage sector.

### **Public access to farmland**

This project examined by survey the demand for access to the rural landscape and farmers' willingness to allow access to their land for recreational activities. Half of the farmers surveyed were unwilling to give access to their land even if they were paid for it. Reasons for this included nuisance impacts (interference with agricultural activities), insurance liability and potential invasion of privacy.

For those farmers (half the total surveyed) who were willing to give access almost 58% wanted payment for it while the remainder did not require payment.

The remaining farmers willing to allow public access would give this free once certain conditions were satisfied. These conditions included no permanent right of way being established, full public liability insurance indemnification and finally the maintenance costs for the walkway being covered.





### The One Goal Challenge

The 'One Goal Challenge' was the theme of the Teagasc stand at the 2010 National Ploughing Championships. The idea was to have visitors commit to a range of specific goals which could benefit their farm business. The goals were presented under the headings: Dairy, Cattle, Sheep, Forestry, Tillage, Horticulture, Environment, Diversification, Farm Business Management, and Education. Each of the goals were framed in SMART form: Specific, Measurable, Attainable, Realistic and Timebound. The Teagasc stand included staff expert in each of these categories and visitors could discuss suitable SMART goals with them in addition to any other queries they might have. More than 1,100 adult visitors to the Teagasc stand participated.



*Tom O'Dwyer, Head of Teagasc Dairy Knowledge Transfer Department speaking to a farmer at the National Ploughing Championships which took place in Athy.*

*Teagasc Director Professor Gerry Boyle explains the One Goal Challenge to Mr Brendan Smith, T.D., Minister for Agriculture.*







**Client Profile:**  
Eugene McCartan,  
Hollymount,  
Co Mayo.

**Sheep Farmer/ REPS Participant**  
Sheep producer Eugene McCartan farms 110 hectares including 250 ewes and 20 hectares of mature forest including beech, ash, oak, sycamore and spruce.

**Eugene McCartan,  
Hollymount, Co Mayo.**

Sheep producer Eugene McCartan farms 110 hectares including 250 ewes and 20 hectares of mature forest including beech, ash, oak, sycamore and spruce. In 2009 Eugene took on his biggest forestry challenge by himself, planting 16 hectares along the Robe river.

As a REPS farmer he qualified to plant under the Forest Environment Protection Scheme (FEPS) which compensated him for the loss of REPS on the planted area. FEPS provided an opportunity to design a woodland that will contribute more to the landscape, biodiversity and promotion of native species, as well as protecting the water resource of the Robe.

By organising most of the development work himself, while availing of professional advice from Teagasc Noel Kennedy et al, Eugene feels he was more in control of the cost and timing of the project.

Thanks to active management and timely thinning, the older woodlands are healthy and vigorous, and provide a steady supply of timber to Mr. McCartan's farm-based sawmilling business.







### The JFC Innovation Awards for Rural Business

The JFC Innovation Awards for Rural Business were again sponsored by JFC in 2010. The competition is run in partnership by Teagasc, the Irish Farmers Journal, Department of Agriculture and Rural Development NI and LEADER. The aim of the Awards is to encourage a flow of new ideas from the farming and community and help individuals turn their idea into a reality. Speaking at the launch of the competition, John Concannon, managing director, JFC, said: "Innovation has never been needed more than in the current climate. Developing new ideas and creating new business will be the stepping stone for many that will lead to a better future".

The judging panel interviewed almost sixty eligible entries from 24 out of 32 counties.

A couple of themes came through in the 2010 competition; farmers adding value to their produce through direct selling or coming together in groups to create new brands and businesses and farmers creating real businesses in the energy market. The overall winners were Patrick & Peter Farrelly of Farrelly Bros, Carnaross, Kells, Co. Meath for their willow bio-energy project.

*"Winning the competition was a major boost to our company and the effort to grow our own energy at home. The publicity has helped to highlight the benefits of willow as a cash crop for farmers and to give credibility to our plans to plant an additional 5,000 acres of willow next year. It has given us the confidence to push forward and also to expand our business into Poland and the UK. A key component of the award is the mentoring and support which we continue to receive from bodies such as Teagasc and LEADER."*

**Patrick Farrelly, Farrelly Willow Ltd,  
Overall Winner of the 2010 JFC  
Innovation Awards.**



# GOAL 4

Enhance organisational  
capability and deliver  
value for money





### Director of Knowledge Transfer

#### Dr. Tom Kelly

As part of its Change Programme, Teagasc combined its advisory service with its education service to create a single Knowledge Transfer Directorate, which has been led by Dr. Kelly since early 2010. As Director of Knowledge Transfer Dr. Kelly leads Teagasc's education and advisory services forward into its next phase of development, as student numbers in agricultural education continue to increase and as farmers look to improve on-farm technical performance to sustain profits into the future.

Dr. Kelly graduated from University College Dublin with a BAgrSc in 1977. He completed his Masters, studying milking machine liners in UCD/ Moorepark, before undertaking post graduate research on the influence of farm building design and environmental factors on calf performance in UCD/ Grange for his PhD. He holds an honours MBA from the University of Limerick and a Diploma in Management Development from Leeds University.

#### Chief Operations Officer

Tom Doherty was appointed Chief Operations Officer in early 2010 as part of the Teagasc Change Programme which combined Administration and Management Services Directorates into a single Operations Directorate. A Computer Science graduate from Trinity College Dublin in 1979, Tom completed a Masters Degree in Public Administration in University College Dublin. He also holds a Masters Degree in Project Management from the University of Limerick.

He began his working career in the Department of Foreign Affairs and also worked with the Department of Finance, Airmotive Ireland, Tara Mines and as a management consultant with Ernst & Young. Prior to joining Teagasc in 2003, he spent five years as chief information officer with Bord Gáis Éireann.



#### Teagasc Nutraceutical Research Facility

To launch a high-tech, state-of-the-art research facility at this time demonstrates faith – faith in the future of the Irish agri-food sector and faith in Ireland's talents in research and science as a springboard to growth and jobs. Those were the words of the EU Commissioner, Maire Geoghegan-Quinn at the opening of the Teagasc Nutraceutical Research Facility, at Ashtown, in Dublin. "It demonstrates a keen understanding of the vital role that investment in research and innovation can play in tackling Europe's economic problems," she said.



*EU Commissioner Mairie Geoghegan-Quinn officially opening the Teagasc Nutraceutical Research Facility, Ashtown in the presence of Minister Brendan Smith TD, Dr. Noel Cawley, Chairman and Prof. Gerry Boyle, Director.*

The Commissioner spelt out the importance of the agriculture and food industry to Europe. "The broader European bio-economy, encompassing agriculture, forestry, fisheries, food, chemicals and biofuels, is worth nearly two trillion euro and provides around 22 million jobs in Europe, 12 million of these in agriculture alone. The Irish food and agricultural sector is very well placed to capitalise on the immense opportunities available in this massive sector of the European economy," she said.

### **Walsh Fellowships Seminar**

The Teagasc Walsh Fellowship Seminar took place in the RDS, Dublin, as part of Teagasc's Science Week 2010 activities.

*Chairman, RDS Committee of Agriculture & Rural Affairs, Jim Flanagan, with Michelle Whelan, Ashtown Food Research Centre, Walsh Fellow of the Year and winner of the RDS medal, and Teagasc Director Professor Gerry Boyle.*

At the annual seminar, young researchers showcased their findings from their research and the potential impact that the Walsh fellowship scheme, Teagasc and other third level partners can have on the agri-food sector. The research presented covered a wide range of topics in animal, crop, food, environmental sciences and rural economics.

The 2010 winner of the Walsh Fellowships seminar and winner of the RDS medal was Michelle Whelan, who presented a paper on 'Determination of anthelmintic residues in milk using UPLC-MS/MS with rapid polarity switching'. A new analytical method for determining the major classes of anthelmintic drug residues in milk. Michelle Whelan is a Walsh Fellow at the Teagasc Food Research Centre, Ashtown, supervised by Dr. Ambrose Furey, Cork Institute of Technology and Dr. Martin Danaher, Teagasc.



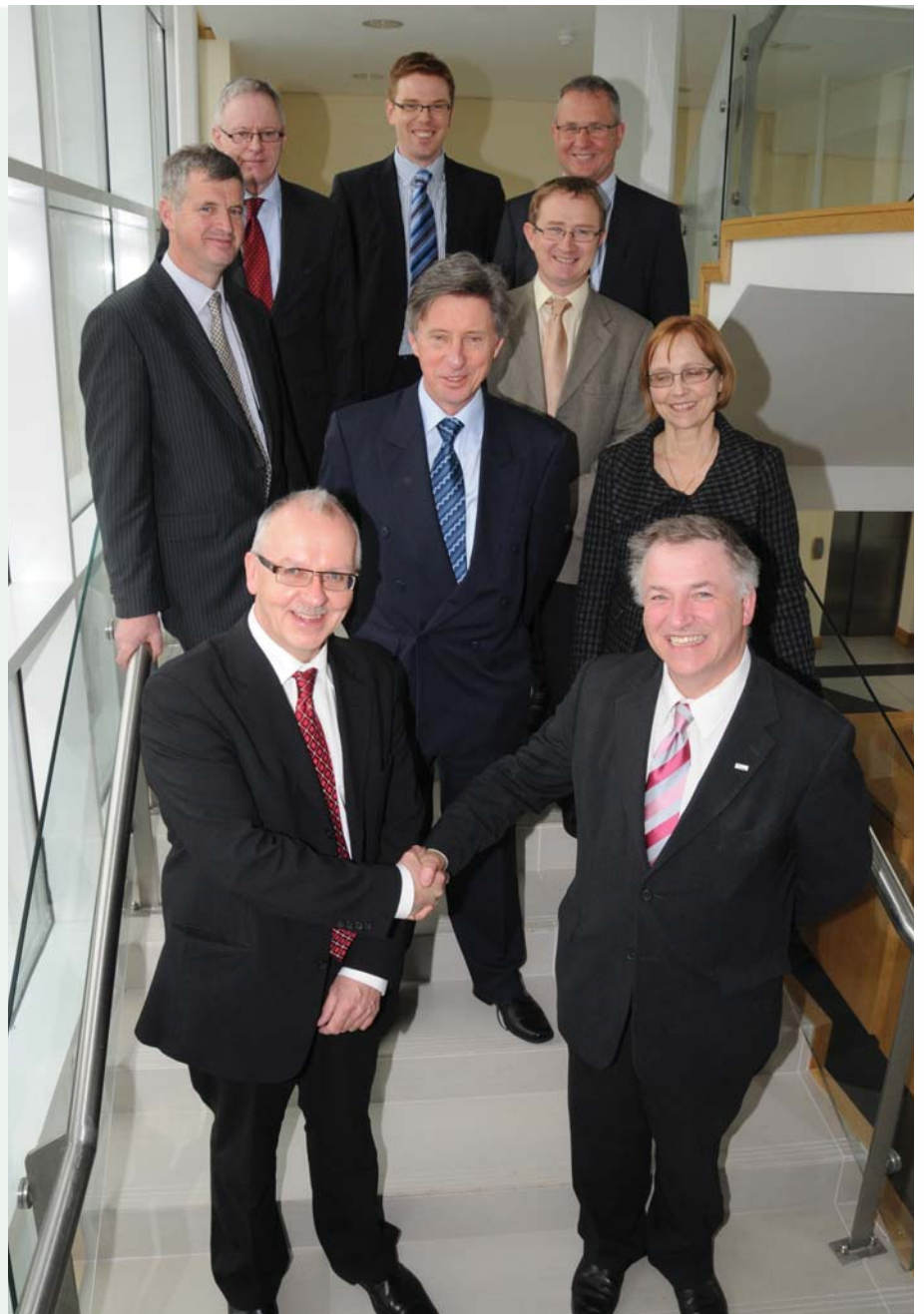


*Right:*

*Dr. Erkki Kemppainen Director General of MTT Finland's AgriFood Research organisation is greeted by Teagasc Director Gerry Boyle during a visit to Oak Park. Also pictured are Dr. Anu Harkki, research director of MTT and Dr. Roy Tubb, Head of international Cooperation at MTT. Dr. Frank O'Mara, Dr. Lance O'Brien, Mr. Ger Shortle, Mr. Pat Murphy and Dr. Ray Kelly made presentations to the MTT group.*

*Below:*

*Pictured at the launch of the Teagasc Open Innovation Programme 2010/11 are from left: Mr. Peter Leonard, Advisor, Mayo; Mr. Joe Murray, RIP, Chairman, Innovation Programme Panel; Professor Gerry Boyle, Director of Teagasc; Dr. Lance O'Brien, Programme Co-ordinator; Dr. Aine Macken-Walsh, Rural Economy Research Centre; and Mr. Paddy Browne, Head of Education.*



## Teagasc Science Week Events 2010

The aim of Science Week is to promote the relevance of science, engineering and technology in our everyday lives and to demonstrate the importance of these disciplines to the future development of Irish society and to the economy. Teagasc supports this Discover Science and Engineering initiative by holding a series of events and Open Days at Teagasc research and education locations nationwide. Circa 850 students attended in 2010. Each location offered a wide range of topics and some of these were:

The Teagasc Food Research Centre, Ashtown, demonstrated bacteria on hands, illuminated by a UV detector, food pathogens on agar plates and the use of molecular methods to detect bacteria.



The Teagasc Animal Production and Grassland Research Centre, Athenry open day featured visits to the Animal Reproduction and Parasitology Laboratories where students could see how science is being used to address issues related to reproduction and parasitism in cattle and sheep.

The Teagasc Animal Production and Grassland Research Centre, Grange, Meath showcased the Animal Production and Biosciences research programmes including information on animal genomics. At the Environmental Research Centre, Johnstown Castle, Wexford students were informed of some of the experiments being undertaken in relation to ecology, gaseous emission, water quality, soils and nutrient efficiency.







Kildalton College, Kilkenny  
Students at Kildalton Agricultural College had the opportunity to examine the ruminant and monogastric digestive systems.

The Animal Production and Grassland Research Centre and Food Research Centre, Moorepark, Cork offered students a visit to both Moorepark Food Research Centre (MFRC) and Moorepark Animal & Grassland Research and Innovation Centre. On the food side, students heard how probiotic bacteria work to fight off bad bacteria and how examining their DNA helps.

On the production side students learned about ruminant nutrition, greenhouse gas emissions from dairy production, automation in milking, energy use efficiency and calf rearing.

Crops Research Centre, Oak Park, Carlow  
Undergraduate students from Carlow Institute of Technology and local schools visited Oak Park Crops Research Centre where researchers from the breeding, pathology and biofuels programmes highlighted some of the research activities in progress.

### Twitter Competition

Teagasc is increasingly aware of the growing importance of Social Media such as Facebook and Twitter as tools for communicating with students and clients. "One of the earliest uses of Twitter by Teagasc was to contact students and encourage them to participate in Science Week 2010," says Catriona Boyle of Teagasc Oak Park.



### **Waterford Farmer wins Teagasc/FBD Student of the Year 2010**

William Keane from County Waterford was the 2010 Teagasc Student of the Year. The awards, sponsored by FBD Trust, were presented by the Director of Teagasc, Prof. Gerry Boyle at the Teagasc Agricultural Education Conference in Dublin Castle in February.

William Keane, Garranurton, Kilmacthomas, County Waterford completed the Advanced Certificate in Dairy Herd Management, with merit at the Teagasc Kildalton College, Piltown, County Kilkenny.

Speaking at the presentation of the awards, Teagasc Director Prof. Gerry Boyle congratulated the eight finalists on their achievements.

"You are a credit to yourselves, your parents and to your teachers who have guided you through your education. I wish you well in your future careers, and now that you have been placed at the top of your class, I hope that you will become leaders of your industry in the years ahead," he said.

Prof. Boyle said: "Teagasc has completed a comprehensive review of its Education and Training programme and these programmes continue to be upgraded to the highest standards. The accreditation of the education and training programmes by the National Qualifications Authority of Ireland incorporating HETAC and FETAC has raised the standing of the qualifications both nationally and internationally.

All courses delivered by Teagasc are placed on the National Qualifications Framework and this will further facilitate national and international recognition of these awards."

Now in their 26th year, the awards have been sponsored since inception by FBD Trust Ltd. Paddy Browne, Teagasc Head of Education speaking at the awards said: "Through their continued support for the Student of the Year Awards, FBD Trust has demonstrated their strong commitment to agricultural education. The competition encourages the best and brightest people to become involved in farming and to reach the highest standards."







**Staff Profile**  
**Olivia Byrne**

**Current Role: Payroll  
Supervisor, Finance  
Department, Oak Park.**

Background: Olivia is from Gowran, Co. Kilkenny and comes from a farming background.

Prior to joining Teagasc Olivia worked in the private sector for 13 years and gained valuable experience while working in Sales, various areas in Accounts and a number of years in Payroll. She joined Teagasc in April 2005 as Payroll Administrator in the Finance Department. In 2008 she completed an acting role in the Human Resources Department as a HR Services Officer and then returned to Payroll in 2009.

Olivia's current role is to co-ordinate all activities relating to the efficient functioning of the payroll unit located at Teagasc Head Office Finance Department including, but not limited to, payment of wages and salaries to all Teagasc employees and pensions to Teagasc pensioners. This role involves working closely with staff at Teagasc locations countrywide.

Staff, Revenue, external companies etc continuously request information about what they have been paid, reports to verify data, reconciliations etc and this needs to be carefully managed and secured and requires an ability to work with understanding and sensitivity in a confidential manner. Apart from ensuring that Teagasc complies with corporate governance rules and regulations one of the main

priorities of the Finance Department is to provide excellent customer service to staff, pensioners, management and all other stakeholders.

As in all areas of Finance the Payroll Department is continuously adapting methodologies and systems to ensure that they can complete their work in a more timely and efficient manner and to improve the service to their stakeholders. In recent years Olivia worked closely with the Human Resources Department in implementing a new HR/Payroll system with employee self service modules to be implemented in the coming year.

**Staff Profile**  
Olivia Byrne

**Current Role:**  
Payroll Supervisor, Finance  
Department, Oak Park.



A herd of black and white cows is gathered in a lush green field. In the background, a valley with rolling hills and a small town is visible under a cloudy sky. The cows are the central focus, with some looking towards the camera. The overall scene is a rural landscape.

# FINANCIAL STATEMENTS

For Year Ended 31 December 2010



# FINANCIAL STATEMENTS

Year End 31 December 2010

<b>CONTENTS</b>	<b>PAGE</b>
REPORT OF THE COMPTROLLER & AUDITOR GENERAL	64
STATEMENT ON INTERNAL FINANCIAL CONTROL	65
STATEMENT OF RESPONSIBILITIES OF THE AUTHORITY	66
ACCOUNTING POLICIES	67
INCOME AND EXPENDITURE ACCOUNT	69
STATEMENT OF TOTAL RECOGNISED GAINS AND LOSSES	69
BALANCE SHEET	70
CASH FLOW STATEMENT	71
NOTES TO THE FINANCIAL STATEMENTS	72

# REPORT OF THE COMPTROLLER & AUDITOR GENERAL

## for presentation to the Houses of the Oireachtas

I have audited the financial statements of Teagasc for the year ended 31 December 2010 under the Agriculture (Research, Training and Advice) Act 1988. The financial statements, which have been prepared under the accounting policies set out therein, comprise the Accounting Policies, the Income and Expenditure Account, the Statement of Total Recognised Gains and Losses, the Balance Sheet, the Cash Flow Statement and the related notes. The financial reporting framework that has been applied in their preparation is applicable law and Generally Accepted Accounting Practice in Ireland.

### **Responsibilities of the Members of the Authority**

The Authority is responsible for the preparation of the financial statements, for ensuring that they give a true and fair view of the state of the Authority's affairs and of its income and expenditure, and for ensuring the regularity of transactions.

### **Responsibilities of the Comptroller and Auditor General**

My responsibility is to audit the financial statements and report on them in accordance with applicable law.

My audit is conducted by reference to the special considerations which attach to State Bodies in relation to their management and operation.

My audit is carried out in accordance with the International Standards on Auditing (UK and Ireland) and in compliance with the Auditing Practices Board's Ethical Standards for Auditors.

### **Scope of 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 Authority's circumstances, and have been consistently applied and adequately disclosed
- the reasonableness of significant accounting estimates made in the preparation of the financial statements, and
- the overall presentation of the financial statements

I also seek to obtain evidence about the regularity of financial transactions in the course of audit.

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 report.

### **Opinion on the Financial Statements**

In my opinion, the financial statements, which have been properly prepared in accordance with Generally Accepted Accounting Practice in Ireland, give a true and fair view of the state of the Authority's affairs at 31 December 2010 and of its income and expenditure for the year then ended.

In my opinion, proper books of account have been kept by the Authority. The financial statements are in agreement with the books of account.



# REPORT OF THE COMPTROLLER & AUDITOR GENERAL

for presentation to the Houses of the Oireachtas

## Matters on which I Report by Exception

I report by exception if:

- I have not received all the information and explanations I required for my audit, or
- my audit noted any material instance where moneys have not been applied for the purposes intended or where the transactions did not conform to the authorities governing them, or
- the information given in the Authority's Annual Report for the year for which the financial statements are prepared is not consistent with the financial statements, or
- the Statement on Internal Financial Control does not reflect the Authority's compliance with the Code of Practice for the Governance of State Bodies, or
- I find there are other material matters relating to the manner in which public business has been conducted.

I have nothing to report in regard to those matters upon which reporting is by exception.

John Buckley  
Comptroller and Auditor General  
29 June 2011

# STATEMENT ON INTERNAL FINANCIAL CONTROL

On behalf of the Authority of Teagasc I acknowledge our responsibility for ensuring that an effective system of internal financial control is maintained and operated.

Any system of internal financial control can provide only reasonable and not absolute assurance against material error, misstatement or loss. In considering the effectiveness of internal financial controls, the Authority and its Audit Committee have regard, among other things, to the requirements of the Code of Practice for the Governance of State Bodies.

The Authority has taken steps to ensure that an appropriate control environment is in place by:

- clearly defining management responsibilities, authority and accountability;
- establishing formal procedures for monitoring the activities and safeguarding the assets of Teagasc;
- developing a culture of accountability across all levels of the organisation.

The Authority has established procedures to identify business risks within Teagasc by:

- identifying the nature, extent and financial implication of risks facing Teagasc including the extent and categories which it regard as acceptable;
- assessing the likelihood of identified risks occurring;
- assessing Teagasc's ability to manage and mitigate the risks that do occur;
- assessing the costs of operating particular controls relative to the benefit obtained.

The system of internal financial control is based on a framework of regular management reporting, administration procedures including segregation of duties and a system of delegation and accountability including:

- an annual budgeting and financial reporting system which is reviewed and approved by the Authority;
- regular reviews by the Authority of overall strategy, business and financial plans and variances against operating and capital budgets.

Teagasc has an internal audit function, which operates in accordance with the requirements of the Code of Practice for the Governance of State Bodies and with the effectiveness criteria set out in the Teagasc Statement of Strategy published in 2008. The work of internal audit is informed by analysis of the risks to which Teagasc is exposed and annual internal audit plans are based on this analysis. The internal audit plans are approved by the Audit Committee. In 2010 the Authority retained an external expert to advise the Audit Committee.

The Authority's monitoring and review of the effectiveness of the system of internal financial control is informed by the work of the internal auditor, the Audit Committee which oversees the work of the internal auditor, the executive managers within Teagasc responsible for the development and maintenance of the financial control framework and comments made by the Comptroller and Auditor General in his management letter.

I confirm that the Authority conducted a review of the effectiveness of the systems of internal financial control in 2010.

**Dr. Noel Cawley**  
**Chairman**  
24 June 2011



# STATEMENT OF RESPONSIBILITIES OF THE AUTHORITY

Under Section 12(1) of the Agriculture (Research, Training and Advice) Act, 1988, the Authority is required to prepare financial statements in such form as may be approved by the Minister for Agriculture, Fisheries and Food with the concurrence of the Minister for Finance. In preparing those financial statements, the Authority is required to:

- select suitable accounting policies and then apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- prepare the financial statements on the going concern basis unless it is inappropriate to presume that Teagasc will continue in operation;
- disclose and explain any material departures from applicable accounting standards.

The Authority is responsible for keeping proper books of account which disclose with reasonable accuracy at any time the financial position of Teagasc and which enable it to ensure that the financial statements comply with statutory requirements. The books of account are kept at the Authority's headquarters at Oak Park, Carlow. The Authority is also responsible for safeguarding the assets of Teagasc and for taking reasonable steps for the prevention and detection of fraud and other irregularities.

**Dr. Noel Cawley**  
Chairman  
24 June 2011

**James Brett**  
Member of the Authority

# ACCOUNTING POLICIES

The significant accounting policies adopted by Teagasc are as follows:

## **Basis of accounting**

The Financial Statements have been prepared in accordance with the historical cost convention, subject to certain assets being included at a valuation (see below), and in a form approved by the Minister for Agriculture, Fisheries and Food with the consent of the Minister for Finance under the Agriculture (Research, Training and Advice) Act, 1988. The Financial Statements have been prepared using the accruals method of accounting except as stated below and in accordance with generally accepted accounting practices. Financial Reporting Standards recommended by the recognised accountancy bodies are adopted as they become applicable.

## **State funding**

State funding for research in the Food sector, for the Stimulus collaborative research programme and for the Agricultural Catchments Programme is accounted for on an accruals basis. All other State funding is accounted for on a cash receipts basis.

## **Research and other projects**

Grants in respect of research and other projects are included as income in the year in which the related expenditure is incurred.

## **Tangible fixed assets and depreciation**

Assets were taken over from An Chomhairle Oiliúna Talmhaíochta and An Foras Talúntais on 8th September 1988 at the closing values in the Balance Sheets of those bodies. Additions are stated at cost.

Land is not depreciated. The cost or valuation of other owned fixed assets is written off by equal instalments over their expected useful lives as follows:

Farm Buildings	20 years
Other Buildings	50 years
Plant and Vehicles	5 years
Computer Equipment	3 years
Laboratory and Office Equipment	10 years

Assets held under finance leases are depreciated over the lease term, where this is shorter than their expected useful lives.

A half year's depreciation is charged in the years of acquisition and disposal of assets.

## **Leases**

Fixed assets acquired under finance leases are treated in accordance with the policy noted above under fixed assets. The capital element of related rental obligations is included under liabilities, while the interest element is charged to expenditure over the term of the primary lease period.

Rentals on operating leases are charged to expenditure as incurred.

## **Capital account**

The balance on this account represents the unamortised value of funds used to purchase fixed assets.

## **Stocks**

Stocks have been valued by Teagasc officials. Livestock and own farm produce are valued at estimated net realisable value. Net realisable value is determined on the basis that animals are sold on the open market. Gains and losses, which arise from these valuations, are reflected in full in operational income. All other stocks are valued at the lower of cost and net realisable value.

## **Debtors**

Known bad debts are written off as they arise and specific provision is made where recovery is considered doubtful.



# ACCOUNTING POLICIES

## **Pensions**

Teagasc operates defined benefit pension schemes which are funded annually on a pay as you go basis from monies available to it, including monies provided by the Department of Agriculture, Fisheries and Food, and from contributions deducted from staff salaries.

Pension Scheme liabilities are measured on an actuarial basis using the projected unit method.

Pension costs reflect pension benefits earned by employees in the period and are shown net of staff pension contributions which are retained by Teagasc. An amount corresponding to the pension charge is recognised as income to the extent that it is recoverable, and offset by grants received in the year to discharge pension payments.

Actuarial gains or losses arising from changes in Actuarial assumptions and from experience surpluses and deficits are recognised in the Statement of Total Recognised Gains and Losses for the year and a corresponding adjustment is recognised in the amount recoverable from the Department of Agriculture, Fisheries and Food.

Pension liabilities represent the present value of future pension payments earned by staff to date. Deferred pension funding represents the corresponding asset to be recovered in future periods from the Department of Agriculture, Fisheries and Food.

## **Moorepark Technology Limited**

Moorepark Technology Limited is a joint venture between Teagasc and various agriculture co-operatives. Teagasc has a 57% holding in the paid up share capital of the company. Separate audited financial statements have been prepared in respect of Moorepark Technology Limited. It was not considered appropriate to consolidate the results of the company (Note 15).

## **Foreign currency**

Transactions denominated in foreign currencies are translated into Euro and recorded at the rates of exchange ruling at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies are translated into Euro at the rates of exchange ruling at the balance sheet date.

# INCOME AND EXPENDITURE ACCOUNT

Year ended 31 December 2010

	Notes	31 December 2010 €'000	31 December 2009 €'000
<b>Income</b>			
State funding	2	134,653	145,990
EU funding	3	1,553	1,755
Operational income	4	26,081	29,551
Net deferred funding for pensions	9	20,161	14,739
Surplus on disposal of fixed assets	25	905	282
Other grants, donations and voluntary levies		2,248	3,249
		<u>185,601</u>	<u>195,566</u>
<b>Expenditure</b>			
	5	<u>186,792</u>	<u>201,113</u>
		(1,191)	(5,547)
Transfer from/ (to) Capital Account	12	<u>4,578</u>	<u>(5,444)</u>
<b>Surplus/(Deficit) for the financial year</b>		<u>3,387</u>	<u>(10,991)</u>
<b>Balance at beginning of year</b>		<u>7,979</u>	<u>18,970</u>
<b>Balance at end of year</b>	13	<u>11,366</u>	<u>7,979</u>

## STATEMENT OF TOTAL RECOGNISED GAINS AND LOSSES

	Notes	31 December 2010 €'000	31 December 2009 €'000
<b>Surplus/(Deficit) for the financial year</b>		3,387	(10,991)
Experience gains on pension scheme liabilities	9	71,517	22,535
Changes in assumptions underlying the present value of pension liabilities	9	<u>(68,898)</u>	<u>672</u>
Actuarial gain on pension liabilities		2,619	23,207
Adjustment to Deferred pension funding		<u>(2,619)</u>	<u>(23,207)</u>
<b>Total Recognised Surplus/(Loss) for the year</b>		<u>3,387</u>	<u>(10,991)</u>

The above amounts relate entirely to continuing operations. The Statement of Accounting Policies and notes 1 to 28 form part of these Financial Statements.

Dr. Noel Cawley  
Chairman

Professor Gerry Boyle  
Director



# BALANCE SHEET

Year ended 31 December 2010

		31 December 2010 €'000	31 December 2009 €'000
	Notes		
<b>Fixed assets</b>			
Tangible assets	14	95,204	99,782
Financial assets	15	<u>2</u>	<u>2</u>
		<u>95,206</u>	<u>99,784</u>
<b>Current assets</b>			
Stocks	17	4,662	4,982
Debtors	18	10,597	11,146
Bank balances		18,925	14,895
Short term deposits		<u>2,178</u>	<u>462</u>
		<u>36,362</u>	<u>31,485</u>
<b>Creditors - Amounts falling due within one year</b>			
Creditors and accruals	19	15,072	13,429
Deferred income	20	<u>9,926</u>	<u>10,079</u>
		<u>24,998</u>	<u>23,508</u>
<b>Net current assets</b>		<u>11,364</u>	<u>7,977</u>
<b>Total assets less current liabilities before pensions</b>		<b>106,570</b>	<b>107,761</b>
Deferred pension funding	9	880,648	863,106
Pension liabilities	9	<u>(880,648)</u>	<u>(863,106)</u>
		<u>0</u>	<u>0</u>
<b>Net assets</b>		<u>106,570</u>	<u>107,761</u>
<b>Represented by</b>			
Capital account	12	95,204	99,782
Income and Expenditure account		<u>11,366</u>	<u>7,979</u>
		<u>106,570</u>	<u>107,761</u>

The Statement of Accounting Policies and notes 1 to 28 form part of these Financial Statements.

# CASH FLOW STATEMENT

Year ended 31 December 2010

		31 December 2010 €'000	31 December 2009 €'000
<b>Reconciliation of operating surplus to net cash inflow from operating activities</b>			
Operating surplus/(deficit)		3,387	(10,991)
Depreciation	14	7,298	7,311
Transfer (from) / to capital account	12	(4,578)	5,444
Interest received		(471)	(829)
Profit on sale of fixed assets		(905)	(282)
Decrease in stocks		320	561
Decrease/(increase) in debtors		549	(1,709)
Increase/(decrease) in creditors and long term liabilities		1,643	(206)
(Decrease) in deferred income		(153)	(3,132)
<b>Net cash inflow/(outflow) from operating activities</b>		<u>7,090</u>	<u>(3,833)</u>
<b>CASH FLOW STATEMENT</b>			
<b>Net cash inflow/(outflow) from operating activities</b>		<u>7,090</u>	<u>(3,833)</u>
<b>Return on investment and servicing of finance</b>			
Interest received		471	829
Net cash inflow from returns on investment and servicing of finance		<u>471</u>	<u>829</u>
<b>Investing activities</b>			
Payments to acquire tangible fixed assets	14	(2,875)	(12,778)
Receipts from disposals of tangible fixed assets		1,060	305
Net cash outflow from investing activities		<u>(1,815)</u>	<u>(12,473)</u>
<b>Increase/(decrease) in cash</b>	24	<u>5,746</u>	<u>(15,477)</u>
<b>Reconciliation of net cashflow to movement in net funds</b>			
Increase/(Decrease) in cash	24	5,746	(15,477)
Net funds at 1 January		<u>15,357</u>	<u>30,834</u>
<b>Net funds at 31 December</b>		<u>21,103</u>	<u>15,357</u>

The Statement of Accounting Policies and notes 1 to 28 form part of these Financial Statements.



# NOTES TO THE FINANCIAL STATEMENTS

## 1 Teagasc (the Agriculture and Food Development Authority)

Teagasc (the Agriculture and Food Development Authority) was established under the Agriculture (Research, Training and Advice) Act, 1988. Under Section 21 of the Act, the assets and liabilities of An Chomhairle Oiliúna Talmhaíochta and An Foras Talúntais were transferred to Teagasc upon its establishment.

Section 12 of the Act requires that Accounts shall be kept in such form as may be approved by the Minister for Agriculture, Fisheries and Food with the concurrence of the Minister for Finance. This approval was given on 14 August 1998.

<b>2 State funding</b>	<b>2010</b>	<b>2009</b>
	<b>€'000</b>	<b>€'000</b>
The amount shown under this heading comprises:		
Vote 31: Agriculture, Fisheries and Food		
Grant-in-aid for general expenses	<b>83,390</b>	91,836
Grant-in-aid for superannuation purposes	<b>30,775</b>	28,091
Grant for human resource purposes	<b>12,000</b>	12,000
Food research and agriculture research	<b>4,406</b>	7,024
Stimulus collaborative research programme	<b>2,829</b>	3,869
Animal Welfare Recording and Breeding Scheme	<b>513</b>	2,360
Grant for forestry publicity and awareness and training	<b>740</b>	810
	<b><u>134,653</u></b>	<b><u>145,990</u></b>

<b>3 EU funding</b>	<b>2010</b>	<b>2009</b>
	<b>€'000</b>	<b>€'000</b>
Farm Survey Income	<b>102</b>	183
Framework Programme VI	<b>953</b>	851
Framework Programme VII	<b>498</b>	721
	<b><u>1,553</u></b>	<b><u>1,755</u></b>

Framework Programmes have been the main financial tools through which the European Union supports research and development activities covering almost all scientific disciplines. Framework Programmes cover a period of five years with the last year of one Framework Programme and the first year of the following Framework Programme overlapping. Framework Programme VI ran up to the end of 2006. Framework Programme VII started on 1 January 2007 and runs to the end of 2013.

Teagasc carries out EU funded research through the Framework Programmes. Grants in respect of such research are taken into account as income when the corresponding expenditure has been incurred.

# NOTES TO THE FINANCIAL STATEMENTS ...continued

## 4 Operational income

	Operations €'000	Knowledge Transfer €'000	Research €'000	2010 €'000	2009 €'000
Advisory service fees	0	11,371	0	11,371	15,472
Other fees	7	3,149	5,494	8,650	7,619
Livestock trading (Note 7)	0	740	1,270	2,010	2,051
Other farming operations	0	717	1,719	2,436	1,899
Canteen receipts	0	111	108	219	286
Publications and miscellaneous	508	384	503	1,395	2,224
	<u>515</u>	<u>16,472</u>	<u>9,094</u>	<u>26,081</u>	<u>29,551</u>

## 5 Expenditure

	Operations €'000	Knowledge Transfer €'000	Research €'000	2010 €'000	2009 €'000
Pay (Note 8)	4,646	46,748	28,315	79,709	94,570
Pensions (Note 9)	60,549	0	0	60,549	57,909
Travelling and subsistence*	224	2,661	955	3,840	4,255
Staff Training	268	38	101	407	518
General operating expenses (Note 6)	4,296	9,195	13,237	26,728	26,903
Interest and lease charges	27	0	0	27	26
Depreciation (Note 14)	362	1,586	5,350	7,298	7,311
Grants to private colleges (Note 16)	0	3,539	0	3,539	4,376
Other grants	60	910	3,725	4,695	5,245
	<u>70,432</u>	<u>64,677</u>	<u>51,683</u>	<u>186,792</u>	<u>201,113</u>

\*Travelling and Subsistence

	Domestic €'000	Foreign €'000	2010 €'000	2009 €'000
Subsistence	994	205	1,199	1,185
Motor & Travel	2,378	65	2,443	2,890
Airline & Ferries	0	198	198	180
	<u>3,372</u>	<u>468</u>	<u>3,840</u>	<u>4,255</u>



# NOTES TO THE FINANCIAL STATEMENTS ...continued

## 6 Analysis of general operating expenses

	Operations €'000	Knowledge Transfer €'000	Research €'000	2010 €'000	2009 €'000
Farming supplies / services	46	1,193	2,098	3,337	2,592
Maintenance / repairs	735	1,773	2,639	5,147	4,698
Rents / rates / insurances	47	947	1,386	2,380	2,597
Postage / telephones	606	1,296	268	2,170	2,345
Power / fuel / petrol	131	857	1,297	2,285	2,309
Laboratory supplies	87	230	3,352	3,669	2,232
Printing / stationery / publicity	911	662	167	1,740	2,155
Seminar / classroom / library supplies	7	379	483	869	926
Services of external agencies	0	639	204	843	999
Student and staff canteen supplies	69	413	231	713	655
ICT supplies / services	1,173	145	58	1,376	1,994
Legal / professional fees (Note 10)	475	343	414	1,232	1,353
Miscellaneous programme costs	0	267	570	837	1,361
Special events and miscellaneous	9	51	70	130	687
	<u>4,296</u>	<u>9,195</u>	<u>13,237</u>	<u>26,728</u>	<u>26,903</u>

## NOTES TO THE FINANCIAL STATEMENTS ...continued

<b>7 Livestock trading surplus</b>	<b>2010</b>	2009
	<b>€'000</b>	<b>€'000</b>
Sales	2,322	2,470
Grants and subsidies	597	732
Total livestock trading revenue	<u>2,919</u>	<u>3,202</u>
Opening stock	4,260	4,701
Purchases	559	710
	<u>4,819</u>	<u>5,411</u>
Less: Closing stock	<u>(3,910)</u>	<u>(4,260)</u>
Total cost of livestock sales	<u>909</u>	<u>1,151</u>
Surplus to Income and Expenditure account (Note 4)	<u>2,010</u>	<u>2,051</u>
<b>8 Staff</b>	<b>2010</b>	2009
The average number of staff employed during the year was as follows:		
Professional	655	806
Technical	172	194
Administrative/clerical	261	276
Farm/domestic	248	270
	<u>1,336</u>	<u>1,546</u>
	<b>2010</b>	2009
	<b>€'000</b>	<b>€'000</b>
The Director's remuneration was as follows:		
Basic pay	151	155
Benefit in kind (Car)	12	18
	<u>163</u>	<u>173</u>

The Director's pension entitlements do not extend beyond the model public sector defined benefit superannuation scheme.

Pension levy of €5,183,653 has been deducted from salaries and paid to the Department of Agriculture, Fisheries and Food.

### 9 Superannuation

Section 9 of the Agriculture (Research, Training and Advice) Act, 1988 provides for the establishment of schemes for the granting of superannuation benefits in respect of staff appointed by Teagasc and staff transferred to Teagasc from An Chomhairle Oiliúna Talmhaíochta and from An Foras Talúntais.

Pending the approval of draft superannuation schemes by the Minister for Agriculture, Fisheries and Food, the Minister for Finance and the Oireachtas, Teagasc operates superannuation schemes on an administrative basis.

Teagasc also administers two superannuation schemes (the Agricultural Colleges Staff Superannuation Scheme 1985 and the Agricultural Colleges Spouses' and Children's Contributory Pension Scheme 1985) in respect of certain staff employed by privately-owned Colleges of Agriculture and Horticulture, the cost of whose salaries is borne by the Exchequer through the agency of Teagasc.



## NOTES TO THE FINANCIAL STATEMENTS ...continued

The above schemes are defined benefit superannuation schemes. No separate fund is maintained, and no assets are held, to finance the payment of pensions and gratuities. The actuarial estimate of future liabilities accruing in regard to future benefits is shown on the Balance Sheet.

The average number of monthly pensions paid during the year was 1,564 (2009 – 1,482).

### Superannuation costs

#### (i) Analysis of total pension costs charged to income and expenditure account

	2010 €'000	2009 €'000
Current service cost	14,251	14,062
Interest on scheme liabilities	50,450	48,825
Staff contributions	(4,152)	(4,978)
	<u>60,549</u>	<u>57,909</u>

#### (ii) Movement in net pension liability during the financial year

	2010 €'000	2009 €'000
Net pension liability at 1 January	863,106	871,574
Current service cost	14,251	14,062
Benefits paid	(44,540)	(48,148)
Interest on scheme liabilities	50,450	48,825
Actuarial (gain) / loss	(2,619)	(23,207)
Net pension liability at 31 December	<u>880,648</u>	<u>863,106</u>

#### (iii) Deferred funding asset for pensions

Teagasc recognises as an asset an amount corresponding to the unfunded deferred liability for pensions on the basis of the set of assumptions described above and a number of past events. These events include the statutory basis for the establishment of the superannuation schemes, and the policy and practice currently in place in relation to funding public service pensions including contributions by employees and the annual estimates process. While there is no formal agreement regarding these specific amounts with the Department of Agriculture, Fisheries and Food, Teagasc has no evidence that this funding policy will not continue to meet such sums in accordance with current practice.

	2010 €'000	2009 €'000
Net deferred funding for pensions in the year		
Funding recoverable in respect of current years pensions	64,701	62,887
Resources applied to pay pensions	(44,540)	(48,148)
	<u>20,161</u>	<u>14,739</u>

The deferred funding asset for pensions as at 31 December 2010 was €881 million (2009 - €863 million).

#### (iv) History of defined benefit obligations

	2010 €'000	2009 €'000	2008 €'000
Experience gain / (loss)	71,517	22,535	(5,155)
Percentage of present value of scheme liabilities	8.1%	2.6%	0.6%
Changes in assumptions	(68,898)	672	(8,539)
Percentage of present value of scheme liabilities	7.8%	0.001%	0.98%
Actuarial gain / (loss) recognised in the STRGL	2,619	23,207	(13,694)

## NOTES TO THE FINANCIAL STATEMENTS ...continued

The cumulative actuarial gain recognised in the Statement of Total Recognised Gains and Losses amounts to €153.127m.

### (v) General description of the scheme

The pension scheme is a defined benefit final salary pension arrangement with benefits and contributions defined by reference to current "model" public sector scheme regulations. The scheme provides a pension (eightieths per year of service), a gratuity lump sum (three eightieths per year of service) and spouse's and children's pensions. Normal retirement age is a members 65th birthday, and pre 2004 members have an entitlement to retire without actuarial reduction from age 60. Pensions in payment (and deferment) normally increase in line with general public sector salary inflation.

The valuation used for FRS17 disclosures has been based on an actuarial valuation by a qualified independent actuary on 27 January 2011 to take account of the requirements of FRS17 (revised) in order to assess the scheme liabilities at 31 December 2010.

The principal actuarial assumptions used to calculate liabilities under FRS17 are as follows:

	2010 % per annum	2009 % per annum
Inflation rate increase	2.00	2.00
Salary rate increase	3.50	3.50
Pension rate increase	3.50	3.50
Scheme liabilities discount rate	5.30	5.90

The mortality basis adopted allows for improvements in life expectancy over time, so that life expectancy at retirement will depend on the year in which a member attains retirement age (age 65). The table below shows the life expectancy for members attaining age 65 in 2010 and 2035.

Year of attaining 65	2010	2035
Life expectancy-male	87.6	89.9
Life expectancy-female	89.3	91.8

On the basis of these and other assumptions and applying the projected unit method prescribed in FRS17, the present value of pension scheme liabilities is as follows:

	2010 €'000	2009 €'000
Accumulated liabilities in respect of active scheme members	454,737	394,655
Liabilities in respect of existing pensioners and deferred pensions	425,911	468,451
Total accrued pension liability	<u>880,648</u>	<u>863,106</u>

### 10 Audit fee

A provision of €47,470 has been included in expenditure in respect of auditor's remuneration for 2010 (2009- €47,470)



## NOTES TO THE FINANCIAL STATEMENTS ...continued

### 11 Authority members' fees and emoluments

	2010 €'000	2009 €'000
Cawley, Dr. Noel, Chairman	21	22
Brett, Mr. James	12	13
Christie, Ms. Marie	12	4
Deane, Mr. Derek	0	13
Fitzgerald, Mr. Joe	12	13
Flynn, Mr. Stephen	0	7
Fottrell, Dr Patrick	12	13
Gibbons, Mr. Pdraig	12	13
Heraghty, Mr. Martin	0	0
O'Mahony, Mr. Frank	12	13
Sweeney, Ms. Margaret	12	13
Collins, Mr. Tom	11	0
Downey, Mr. Eddie	12	0
	<u>128</u>	<u>124</u>
These amounts are included in the total pay expenditure in Note 5		
Total expenses paid to Authority members	<u>29</u>	<u>28</u>

### 12 Capital account

	2010 €'000	2009 €'000
Balance at 1 January	<u>99,782</u>	<u>94,338</u>
Transfers from income and expenditure account		
Amount capitalised in respect of purchased assets	2,875	12,778
Net amount released on disposals	(155)	(23)
Property loan repayments	0	0
	<u>2,720</u>	<u>12,755</u>
Less: Amortised in line with asset depreciation	(7,298)	(7,311)
	<u>(4,578)</u>	<u>5,444</u>
Balance at 31 December	<u>95,204</u>	<u>99,782</u>

### 13 Income and Expenditure account

The Authority's accumulated surplus includes profits taken to income in respect of land sales which have and will be used for capital investment purposes. The sanction of the Minister for Agriculture, Fisheries and Food and the Minister for Finance must be secured in the case of each sale transaction if Teagasc is to retain the proceeds for investment in the Teagasc programme.

## NOTES TO THE FINANCIAL STATEMENTS ...continued

	Invested to 31 Dec 2010 €'000	Budget to Complete €'000	Budget for Project €'000
Teagasc has secured sanction to invest in the following projects which are scheduled or underway:			
Functional Food Laboratories, Moorepark	4,974	526	5,500
Student and Educational Facilities, Kildalton College	3,999	131	4,130
Neutraceutical Laboratories, Ashtown	3,500	0	3,500
Biofuel Laboratories, Oak Park	962	38	1,000
Fees / Technology farm	36	134	170
Upgrade of Rural Economy Office Accommodation, Athenry	1,646	54	1,700
Sheep Research Facilities, Athenry	2	1,398	1,400
Student Facilities, Botanic Gardens	0	2,500	2,500
Animal Bioscience Centre, Grange, Co. Meath	1,194	3,406	4,600
Railway Overbridge, Athenry	0	648	648
	<u>16,313</u>	<u>8,835</u>	<u>25,148</u>
Sanction has not yet been secured to complete the following projects:			
Food Biotest Facility, Moorepark	220	780	1,000
Teagasc has applied for but has not yet secured sanction to retain the proceeds from 7 sales completed in 2009/2010 (Note 25)	0	1,209	1209
	<u>16,533</u>	<u>10,824</u>	<u>27,357</u>

### 14 Tangible fixed assets

	Land €'000	Buildings €'000	Plant & equipment €'000	Total €'000
<b>Cost or valuation</b>				
At beginning of year	5,810	108,587	63,925	178,322
Additions	0	619	2,256	2,875
Disposals	0	(32)	(1,038)	(1,070)
At end of year	<u>5,810</u>	<u>109,174</u>	<u>65,143</u>	<u>180,127</u>
<b>Accumulated depreciation</b>				
At beginning of year	0	35,043	43,497	78,540
Charge for year	0	2,859	4,439	7,298
Disposals	0	(7)	(908)	(915)
At end of year	<u>0</u>	<u>37,895</u>	<u>47,028</u>	<u>84,923</u>
<b>Net book amounts</b>				
At beginning of year	<u>5,810</u>	<u>73,544</u>	<u>20,428</u>	<u>99,782</u>
At end of year	<u>5,810</u>	<u>71,279</u>	<u>18,115</u>	<u>95,204</u>



## NOTES TO THE FINANCIAL STATEMENTS ...continued

Included in the opening balances is land totalling 522.8 ha (1,291.3 acres) transferred by the Department of Agriculture, Fisheries and Food at nominal values, and certain other assets which were revalued at 31 December 1975 or 1 July 1980.

Teagasc has the use of 38.0 ha (94 acres) of land owned by the Department of Agriculture & Food, while the Department has the use of 27.1 ha (67 acres) owned by Teagasc. There is no charge to either party arising from these arrangements.

Certain fixed assets entrusted to Teagasc are protected by statute, and may not be sold.

### 15 Financial assets

Teagasc has a 57% holding in the paid up share capital of Moorepark Technology Limited (5,100 shares at €0.127). The Company, which was incorporated on 18 January 1991, is a joint venture between Teagasc and various agriculture co-operatives.

Separate audited financial statements have been prepared in respect of the Company and its results for the year ended 31 December 2010 were as follows:

	2010 €'000	2009 €'000
Turnover	<u>1,310</u>	<u>1,211</u>
Operating profit before depreciation, interest and tax	356	251
Depreciation (net of grants amortised)	(261)	(249)
Interest receipts	1	0
Tax	<u>0</u>	<u>0</u>
Profit after taxation	<u>96</u>	<u>2</u>
Accumulated profits to 31 December	<u>131</u>	<u>35</u>

The Company's Memorandum of Association provides that shareholders are entitled to avail of the Company's services at preferential rates.

Trading transactions between Teagasc and Moorepark Technology Limited (which consists of consultancy, analyses and use of technical and other facilities) were as follows:

	2010 €'000	2009 €'000
Moorepark Technology Limited sales to Teagasc (included in turnover)	319	267
Other recoupments from Teagasc (deducted from cost of sales)	<u>157</u>	<u>168</u>
Total	<u>476</u>	<u>435</u>
Amounts owed to Moorepark Technology Limited at 31 December	<u>97</u>	<u>40</u>
Teagasc sales to Moorepark Technology Limited	<u>53</u>	<u>47</u>
Amounts owed to Teagasc at 31 December	<u>18</u>	<u>31</u>

## NOTES TO THE FINANCIAL STATEMENTS ...continued

Under the terms of the Moorepark Technology Limited Promoters' Agreement, Teagasc has undertaken to provide from its own resources specified staff requirements in Moorepark Technology Limited, as well as underwriting the Company's utility, stores, accounts and effluent overheads. These costs were as follows:

	2010 €'000	2009 €'000
Staff	83	176
Other	65	67

These totals are included in Teagasc expenditure under Food Research (Notes 5 and 6).

Moorepark Technology Limited utilises assets owned by Teagasc as follows:

	2010 €'000	2009 €'000
Original Costs	1,196	1,196
Net Book Value at 31 December	19	34

These amounts are included under Plant and Equipment (see Note 14 above).

In accordance with the Promoters' Agreement, Teagasc has also leased to Moorepark Technology Limited at a nominal rent of €127 per annum its existing processing hall at Moorepark Dairy Products Centre together with an adjoining site on which the Company has constructed additional facilities.

It was not considered appropriate to consolidate the results of the Company.

Teagasc has three small investments in agricultural co-operatives costing €1,243 in total (2009 - €1,243).

### 16 Private Colleges

Teagasc provides support to three private agricultural colleges as follows:

	2010 €'000	2009 €'000
Grants to private colleges	3,539	4,376
Staff seconded to private colleges (included in the total pay expenditure in Note 5 above)	285	485
	<u>3,824</u>	<u>4,861</u>

### 17 Stocks

	2010 €'000	2009 €'000
Livestock	3,909	4,260
Farm produce, fertilisers and feeding stocks	510	545
General supplies	243	177
	<u>4,662</u>	<u>4,982</u>



## NOTES TO THE FINANCIAL STATEMENTS ...continued

### 18 Debtors and prepayments

	2010 €'000	2009 €'000
Trade debtors	4,938	5,242
Other debtors, prepayments and accrued income	5,659	5,904
	<u>10,597</u>	<u>11,146</u>

All amounts included above fall due within one year.

### 19 Creditors - Amounts falling due within one year

	2010 €'000	2009 €'000
Trade creditors	1,881	2,529
Income tax deducted under PAYE	1,238	1,613
Pay related social insurance	966	879
Value added tax	283	165
Withholding tax	96	94
Other creditors and accruals	10,608	8,149
	<u>15,072</u>	<u>13,429</u>
Creditors for taxation and social welfare included above	<u>2,583</u>	<u>2,751</u>

### 20 Deferred income

Teagasc carries out public funded research in accordance with contracts with other State Institutions, principally the Department of Agriculture, Fisheries and Food. Grants in respect of such research are taken into account as income when the corresponding expenditure has been incurred under each contract.

At 31 December the source and amount of deferred income in respect of research and other projects was as follows:

	2010 €'000	2009 €'000
Department of Agriculture, Fisheries and Food – advance for FIRM projects	1,317	1,870
Department of Agriculture, Fisheries and Food – advance for Stimulus projects	1,745	2,054
European Science Foundation – Food Safety Promotion	282	331
Other research related deferrals	5,468	4,710
Amounts received in advance for work associated with the completion of sale of land at Athenry	1,114	1,114
	<u>9,926</u>	<u>10,079</u>

### 21 Finance leases

At 31 December 2010 Teagasc had no obligations under finance leases (2009 - Nil).

There were no finance charges incurred during the year under finance leases (2009 - Nil).

# NOTES TO THE FINANCIAL STATEMENTS ...continued

## 22 Capital commitments

Capital commitments outstanding at 31 December 2010 amounted to €3.44million (2009 - €1.45million).

## 23 Operating leases

At 31 December 2010 Teagasc had annual commitments under non-cancellable operating leases as follows:

	Land and buildings €'000	Plant and machinery €'000	Total €'000
Leases which expire:			
Within one year	21	35	56
Between two and five years	222	21	243
After five years	71	0	71
	<u>314</u>	<u>56</u>	<u>370</u>

## 24 Analysis of changes in net funds during the year

	1 January 2010 €'000	Cashflows €'000	31 December 2010 €'000
Cash at bank and on hand	14,895	4,030	18,925
Bank overdraft	0	0	0
Short-term deposits	462	1,716	2,178
	<u>15,357</u>	<u>5,746</u>	<u>21,103</u>

## 25 Disposal of Fixed Assets

	Proceeds/ Costs €'000	Proceeds/ Costs €'000
Proceeds from sale of property *		
Property sales during year	1,079	
Cost of sales	<u>(51)</u>	1,028
Proceeds from sale of other assets		<u>32</u>
Net Book Value of other fixed assets disposed		<u>1,060</u> <u>(155)</u>
		<u>905</u>

There was no transfer to the Exchequer of asset sales proceeds in 2010.

\* The written down value at the start of the year of the property sold was nil.

## 26 Teagasc Premises

Teagasc has a total of 78 offices/centres throughout the country, of which 68 are owned by Teagasc and the remaining 10 are under short term rental agreements with an annual total cost of €199K. All of these rental agreements will have expired within the next six years. Eight of the 78 premises have been closed, none of which are subject to an outstanding rental agreement.



# NOTES TO THE FINANCIAL STATEMENTS ...continued

## **27 Authority members – disclosure of transactions**

The Authority has adopted procedures in accordance with the guidelines issued by the Department of Finance in relation to the disclosure of interest by Authority members and the Authority has adhered to these procedures. There were no transactions in the year in relation to the Authority's activities in which board members had an interest.

## **28 Approval of the financial statements**

The Authority approved the financial statements on 2 March 2011



Head Office  
Teagasc, Oak Park, Carlow  
Tel: +353 59 917 0200; Fax: +353 59 918 2097  
info@teagasc.ie. www.teagasc.ie