



# TEAGASC

## RESEARCH

### IMPACT HIGHLIGHTS



# 2013



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# FOREWORD



**DR FRANK O'MARA**  
**DIRECTOR OF RESEARCH**

This document outlines highlights from the impacts achieved in 2013 from research conducted in Teagasc. This is not an exhaustive or complete report of the impact of Teagasc research in 2013 (more examples can be found on our website, [www.teagasc.ie/research](http://www.teagasc.ie/research)). That would require a detailed analysis as much previous research is still having a major impact on our industry and some of our research is confidential research conducted with industry partners. Neither does it purport to show the impact of Teagasc as a whole, where research, advisory and education combine to have a powerful impact on the Irish agriculture sector. Instead, it is a collection of some of the highlights of industry impacts that were achieved in 2013 that can be directly attributed to Teagasc research. It is important to outline these impacts to demonstrate to the taxpayer and research funders that the investment in research in Teagasc does pay dividends. As an organisation that conducts mainly applied research, we work hard to ensure our research will have impact, so it is heartening to present these highlights of recent impact of our research programme. We are using many channels to bring our research findings to end-users. For example, our Food Innovation Gateways Events provide a showcase of our research and development activities and technologies and support. I would like to acknowledge the huge contribution of Teagasc specialists and advisers, both in terms of direct input into some of the research underpinning these impacts, and in transferring this knowledge to farmers and food companies to allow the impact to be achieved.

The research leading to these impacts was generally conducted in collaboration with other research institutes, mainly Irish universities and Institutes of Technology, and we acknowledge and hugely value those collaborations. Many other external bodies or individual farmers or companies were instrumental to conducting this research and achieving these impacts, and we again greatly value those contributions.

Research requires investment, but many studies (and these examples of impact) show that the returns for public investment in agri-food research can be very high. External funding contributed in very many cases to the research underpinning the impacts highlighted here, particularly funding from the FIRM, Research Stimulus Fund, and CoFoRD programmes run by the Department of Agriculture, Food and the Marine, EU programmes such as the various Framework Programmes, Science Foundation Ireland, Enterprise Ireland, the Irish Research Council and the Environmental Protection Agency. Teagasc uses such funding to supplement its grant-in-aid, which provides the majority of funding for its research.

Teagasc is extremely fortunate to have a dedicated workforce, including the research, technical, farm and administrative support staff, who carried out the research which led to these impacts. In particular, I would like to highlight the contribution of funded contact staff (research, technical and post-doctoral fellows) and Walsh Fellows. They are an essential cog in the wheel, and their presence brings a vitality and dynamism to our research centres that is invaluable.



# TEAGASC

## RESEARCH IMPACT HIGHLIGHTS IN 2013

### UNIQUE NEW CATTLE GENOTYPING PANEL

**Dr Donagh Berry, Dr Sinead Waters and Dr Michael Mullen**

Teagasc, in collaboration with the ICBF and Weatherbys, developed a new genotyping platform (SNP chip) in 2013 called the International Dairy and Beef (IDB) SNP chip for use in dairy and beef cattle breeding. The SNP chip allows more accurate national genetic evaluations through the exploitation of DNA information, but at a low cost. The impact is increased (genetic) gain in profit. This platform provides, at a low cost, several types of useful DNA-based information to aid cattle breeding: the generation of genomic proofs, parentage verification and screening for lethal recessives, congenital disorders, and major genes (e.g., myostatin). It was used to genotype 18,788 dairy and beef animals in 2013, leading to a 'cleaning up' of cattle herdbooks, and making Ireland the first country to move parentage testing from microsatellite to SNP technology. Savings to date are €168,000. This new panel is set to be used on up to 200,000 animals in 2014 as part of the new Beef Genomic Scheme, which will position Ireland at the forefront of global efforts to implement genomic selection in beef cattle.



**OTHER CONTRIBUTORS AND COLLABORATORS:** ICBF, Weatherbys Ireland, Illumina, dairy and beef breed societies.

**FUNDING:** Teagasc grant-in-aid and the Department of Agriculture, Food and the Marine Research Stimulus Fund.

### REVISED CATTLE BREEDING OBJECTIVES FOR INCREASED PROFIT

**Dr Donagh Berry, Dr Paul Crossan, Dr Noirin McHugh and Dr Laurence Shalloo**



**OTHER CONTRIBUTORS AND COLLABORATORS:** ICBF, AI organisations, breed societies, Teagasc specialists and advisors.  
**FUNDING:** Teagasc grant-in-aid.

The dairy Economic Breeding Index (EBI) and beef terminal and maternal indexes are tools to help identify animals genetically superior for profit. The EBI has been successfully used to increase profit in the Irish dairy herds since 2001. The beef indexes were developed to mimic the EBI and achieve greater profitability in beef through cumulative genetic gain. The latest revision of the EBI in 2013 included: revised economic values, new national genetic evaluations for the management traits in dairy cattle and revised national genetic evaluations for mastitis and lameness; making it more pertinent to future production systems and incorporating more traits hence influencing profit. The separation of the overall beef suckler value into the two indexes was to meet the disparate requirements of the two different systems. These breeding goals will result in more targeted and pertinent breeding strategies in the dairy and beef sector.

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## RESEARCH IMPACT HIGHLIGHTS IN 2013

### BURRENLIFE: DELIVERING FOR FARMING AND WILDLIFE

**James Moran, Denis Kelleher, Anne Kinsella, Sean Regan, Declan Murphy, Tom Shanahan and Gerard McMahon**

The BurrenLIFE project developed an evidence-based approach to manage species-rich grasslands, habitats and water quality as part of livestock systems in the Burren. Participating farmers adopted management practices and grazing regimes to conserve species-rich grasslands, improve livestock production, enhance nutrient management, remove scrub, and restore stone walls. As a consequence, the Burren Farming for Conservation Programme (BFCP) was launched by Department of Agriculture, Food and the Marine in 2010, providing payments to farmers of about €1 million per year. By 2013, over 14,500 ha of Special Areas of Conservation (SAC) were covered by the BFCP, covering 46% of the Burren SAC area. This work has directly informed the expansion of targeted output based agri environmental projects in the planned Irish Rural Development Plan 2014-2020. This includes an expansion of the BFCP. The BurrenLIFE project was selected as one of the "Best of the Best" LIFE Nature projects in Europe in 2010, and DG Agri is using the project as an example of a successful interactive group to guide future European Innovation Partnerships.

**OTHER CONTRIBUTORS AND COLLABORATORS:** Burren IFA; other Teagasc specialists and researchers and Teagasc advisory staff in Co. Clare; an internal Teagasc Advisory Group.

**FUNDING:** EU LIFE funding and National co-funding, Teagasc grant-in-aid.



### CAP NEGOTIATIONS AND IMPLEMENTATION DECISIONS

**Dr Kevin Hanrahan and Dr Thia Hennessy**



**OTHER CONTRIBUTORS AND COLLABORATORS:** Officials from the Department of Agriculture, Food and the Marine.

**FUNDING:** Teagasc grant-in-aid.

A reform of the EU Common Agricultural Policy (CAP) was completed in 2013 and sets out EU policy and supports to the sector for the next seven years. Teagasc conducted research on the impact of CAP reform agreement and its implementation on Irish agriculture and provided this to the Department of Agriculture, Food and the Marine (DAFM) throughout the reform negotiations process. This analysis contributed to the successful completion of the CAP reform under the Irish EU presidency. The Teagasc research, which involved cooperation with officials from the DAFM, highlighted that while more redistributive CAP implementation options would lead to more farmers gaining in terms of direct payment receipts, these gains would come at the expense of farms that produced more of Ireland's agricultural output. The policy choice made by Ireland (which redistributes direct income support to the least extent allowed under the reform) reduces the probability that CAP reform implementation choices will negatively affect future Irish agricultural production.



# TEAGASC

## RESEARCH IMPACT HIGHLIGHTS IN 2013

### NEW CHEESE TECHNOLOGY PLATFORM

**Dr Tim Guinee**

Teagasc has developed a new cheese technology platform (NCTP) that allows the manufacture of cheeses from reassembled milks formulated from dairy ingredients. The technology involves: manufacture of high protein dairy powders; preparation of reassembled milks by dispersion of the powders, milk fat and other ingredients in water-salt solutions; and gelation of reassembled milk using rennet, starter culture and/or organic acids. The resultant cheeses may be either cast cheeses (about 53% dry matter) formed by pouring the treated re-assembled milk directly into the final mould/package, and/or structured cheeses (over 60% dry matter) formed by further treatments of the cast cheeses. Advantages of the platform over conventional cheese manufacture include the absence of a whey release step, the complete retention of any materials such as colours and flavours; and a greater opportunity to innovate characteristics such as flavour, texture and cooking properties. The Irish Dairy Board (IDB) has licenced the NCTP for the development of white cheeses. Based on this technology, IDB has recently invested €20 million in Saudi Arabia, mainly relating to development of fresh white cheese and other cheese products for the local

**OTHER CONTRIBUTORS AND COLLABORATORS:** IDB Innovation & Technical Centre, Moorepark; Irish Dairy Board R&D.

**FUNDING:** IDB; Teagasc grant-in-aid; the NCTP was first developed during the course of a Dairy Levy-funded project and refined in a subsequent Enterprise Ireland-funded project mainly for rennet-curd cheese types.

Image courtesy of Bord Bia

### CARBON NAVIGATOR FOR GREENHOUSE GAS REDUCTIONS

**Pat Murphy, Dr Rogier Schulte, Dr Paul Crosson, Dr Laurence Shalloo and Dr Donal O'Brien**



**OTHER CONTRIBUTORS AND COLLABORATORS:** Bord Bia

**FUNDING:** Teagasc grant-in-aid; much of the underpinning greenhouse gas mitigation research has been funded by DAFM Research Stimulus Fund.

The Farm Carbon Navigator has been developed as a joint initiative between Teagasc and Bord Bia. It is a tool that allows an individualised plan to be developed for any dairy or beef farm to reduce its carbon footprint (greenhouse gas emissions) and increase production efficiency at the same time. Already it has been used on 450 farms in 2013 through the Beef Quality Assurance Scheme, and Beef Technology Adoption Programme discussion groups. It will be fully rolled out through Dairy and Beef discussion groups in 2014 with the objectives of increasing awareness of the potential for GHG mitigation amongst farmers and professionals and working with farmers to establish targets to increase efficiency and reduce GHG emissions. The approach taken by the carbon navigator has already had an impact in the industry by helping move the focus and policy away from carbon counting to GHG mitigation through practice adoption.

# TEAGASC

## RESEARCH IMPACT HIGHLIGHTS IN 2013

### FOOD WORKS IS GROWING IRISH FOOD ENTREPRENEURS

**Pat Daly**

Food Works ([www.foodworksireland.ie](http://www.foodworksireland.ie)) is a new joint initiative between Teagasc, Bord Bia and Enterprise Ireland that seeks out Irish food entrepreneurs who can demonstrate ability to grow their business, export products and create employment, and supports them to bring their food business ideas from concept to market. Teagasc provides science-based support to these developing businesses through R&D work, product testing and advice from Teagasc scientists and technologists. The programme is already seeing the first signs of success as several participants have already brought products to market. For example, Dairy Concepts Ireland is developing an innovative cheese snack using a revolutionary new cheese-making technology developed by Teagasc. Orpens Cider has developed their products with assistance from Teagasc in product standardisation, label requirements and forging relationships with Irish apple growers. IASC Atlantic Seafood Company of Ireland has developed its seafood butter with the assistance of Teagasc scientists on food allergens, cross-contamination, sensory analysis, and food labelling, and uses an incubation unit at Teagasc Food Research Centre, Ashtown. A second Food Works programme is currently underway.



**OTHER CONTRIBUTORS AND COLLABORATORS:** Bord Bia and Enterprise Ireland  
**FUNDING:** Teagasc grant-in-aid

### DAIRY INDUSTRY EXPANSION — GREENFIELD PROGRAMME

**Dr Laurence Shalloo, Abigail Ryan, Dr Padraig French and Dr Pat Dillon**

**OTHER CONTRIBUTORS AND COLLABORATORS:** Teagasc Dairy KT department, Teagasc B&T dairy advisors, Department of Agriculture, Food and the Marine, Glanbia Ingredients Ireland Ltd, FBD Trust, Irish Farmers Journal and AIB.

**FUNDING:** Project partners, Teagasc grant-in-aid.



This Teagasc-led Greenfield dairy programme has been operational since early 2009 and has generated enormous interest in dairy expansion. It involves the Greenfield Farm in Kilkenny and two commercial dairy farmers who are expanding their dairy operations. The programme aims to demonstrate to existing and new entrant dairy farmers the skills and technologies required to profitably grow their businesses. It is expected that nationally there will be a significant level of new dairy enterprises, as well as approximately 8,000 dairy farmers undertaking significant expansion after the abolition of dairy quotas in 2015. Over the last four years, the Greenfield programme has averaged between 2,000-2,500 farmer visitors each year as well as providing regular information updates on the Greenfield webpage (<http://www.greenfelddairy.ie>) and through the media partner the Irish Farmers Journal, as well as creating some interesting debate on the social network Twitter. A dairy expansion workshop was developed and run in the Greenfield dairy farm in 2013 in the areas of business appraisal, cash flow management and risk analysis. This workshop was highly successful and will be rolled out to more areas nationally in the run up to quota removal.



# TEAGASC

## RESEARCH IMPACT HIGHLIGHTS IN 2013

### TEAGASC CONTRIBUTES TO EUROPEAN STANDARDS IN MILK QUALITY

**Dr Martin Danaher, Dr Helen Cantwell, Dr Mary Moloney, Riona Sayers and Dr Kieran Jordan**



**OTHER CONTRIBUTORS AND COLLABORATORS:**  
**Cork Institute of Technology, Irish Medicines Board.**

**FUNDING:** The Department of Agriculture, Food and the Marine, ProSafeBeef (EU Framework Programme), Teagasc grant-in-aid.

Anthelmintic drugs are used to control a range of internal parasitic infections, such as flukes and worms that can occur in cattle and sheep during pasture grazing. However, their use can lead to residues in milk destined for human consumption. Teagasc developed a new test for anthelmintic residues in milk and meat which is now used in laboratories worldwide. The test led to the identification of flukicide (used to control liver fluke) drugs as emerging residues in milk and meat. Subsequent EU Maximum Residue Limits (MRLs) were set for five flukicides in milk based on Teagasc research, with levels for closantel and clorsulon recently finalised in December 2013. The Teagasc test is now the official EU method for four flukicides (clorsulon, closantel, nitroxylnil and rafoxanide) in milk. New safer flukicide products were developed and are now being used by Irish farmers with a low risk of residues being transferred to milk. Teagasc research was key to identifying and eliminating flukicide residues from milk.

### ESTABLISHMENT OF A NATIONAL GRASSLAND DATABASE

**Dr Michael O'Donovan, Anne Geoghegan, Dr Vincent Griffith and Dr Laurence Shalloo**

Ireland is leading the way in the establishment of a national grassland database. Since its launch in January 2013, the Teagasc PastureBaselreland (PBI) database has established its presence as the national grassland database. The industry impact in one year has been significant. It was used to establish the grass production deficit in spring 2013; thus establishing the case for a two-week extension to nitrogen spreading in the autumn. PBI has successfully documented grass growth levels on farms and established criteria of how grassland farmers can increase grass production. Importantly, it allows measurement and evaluation of grass cultivars to take place on commercial farms in real production environments. Over 130 farms used the system in 2013, and this number will at least triple in 2014. Collecting these data centrally gives the system considerable power in comparison to the sum of the individual farms providing data. Ireland is the first country in the world to establish such a national grassland database.

**OTHER CONTRIBUTORS AND COLLABORATORS:**  
**Commercial grassland seed companies;**  
**Commercial grassland farmers.**  
**FUNDING:** Dairy Levy; FBD Trust and Teagasc grant-in-aid.





# TEAGASC

## RESEARCH IMPACT HIGHLIGHTS IN 2013

### HELPING PIG INDUSTRY MEET NEW WELFARE LEGISLATION

Dr Laura Boyle



Since January 2013 EU legislation requires that pregnant sows be group housed during pregnancy from 28 days post service (S.I. 311 of 2010). This posed an enormous challenge as more than half of the Irish sow herd were still housed in stalls in 2011. In response, Teagasc published a major report entitled 'Towards 2013: Updates, implications and options for group housing pregnant sows' in April 2012. More than a decade of research findings from controlled studies of factors influencing sow behaviour, welfare and longevity in group systems contributed to the advice provided in this report. Additionally, the report contained information on a detailed survey of the health and welfare of over 2,000 sows made on the first farms to convert to group housing during 2000-2002. This report was widely disseminated and made a significant contribution to the successful conversion to group housing (92% of producers converted by October 2013).

**OTHER CONTRIBUTORS AND COLLABORATORS:** Warwick University, United Kingdom; University College Dublin, Queen's University Belfast, Agri-Food and Biosciences Institute, Northern Ireland.

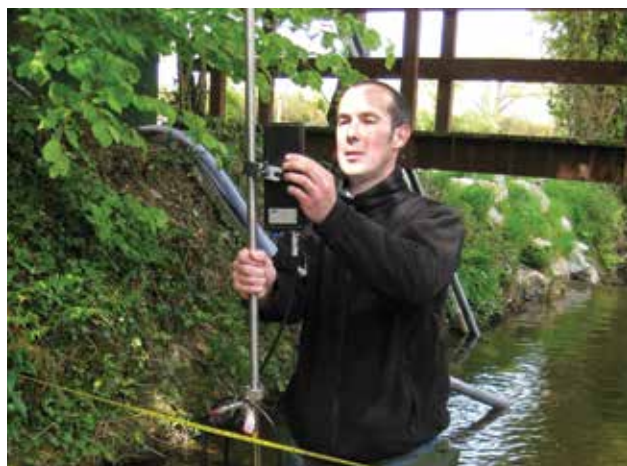
**FUNDING:** Teagasc grant-in-aid, with some of the underlying work funded by an Enterprise Ireland Partnership Innovation Grant.

### TEAGASC RESEARCH INFORMS SCIENCE-BASED ADJUSTMENTS TO IRELAND'S NITRATES ACTION PROGRAMME

Ger Shortle, Dr Stan Lalor, Mark Gibson and Dr Rogier Schulte

The European Council Nitrates Directive aims to reduce water pollution caused or induced by nitrates from agricultural sources. Each Member State must have a Nitrates Action Programme (NAP) that they must review at least every four years. Ireland's NAP covers phosphorus as well as nitrogen and was reviewed in 2013.

Teagasc made a science-based submission on the NAP; proposing several changes, which were subsequently incorporated into the new NAP. These include: significant increases in phosphorus allowances which were judged to be agronomically necessary and environmentally benign; a change in the definition of 'soiled water' (clarifying this area, especially for dairy farmers); controlled application of herbicides during the closed period for certain crops - critical for scutch control in crops where pre-harvest control is not allowed (e.g., malting barley); nitrogen allowances have been increased for winter barley. The derogation allowing higher stocking rates with stricter rules was renewed following the NAP review.



**OTHER CONTRIBUTORS AND COLLABORATORS:** Teagasc Water Framework Directive Working Group.

**FUNDING:** Teagasc grant-in-aid, Department of Agriculture, Food and the Marine.

# TEAGASC

## RESEARCH IMPACT HIGHLIGHTS IN 2013

### NEW TEAGASC POTATO VARIETIES FROM BREEDING PROGRAMME

Dr Denis Griffin and Dr Dan Milbourne



**OTHER CONTRIBUTORS AND COLLABORATORS:** Irish Potato Marketing.  
**FUNDING:** Irish Potato Marketing, Teagasc grant-in-aid.

The Teagasc Potato Breeding programme released two new varieties in 2013. Bikini is a main crop variety with agronomy and eating quality similar to Rooster. The variety has a very unusual skin colour (both red and yellow in defined patches) which should add to novelty sales. Casino is a high dry matter long oval yellow variety which has exceptional eating quality and appearance. The variety is also suitable for French fries. The previously-released Teagasc varieties Electra and Nectar are now firmly established in Great Britain and European markets. Infinity has passed rigorous industry crisping trials and is now accepted by several crisp manufacturers. Three further varieties will be released in 2014.

### NEW DNA SEQUENCING FACILITY FOR FOOD INNOVATION

Dr Paul Cotter, Dr Fiona Crispie and Dr Orla O'Sullivan

Teagasc hosts the largest high-throughput DNA sequencing centre in Ireland. This facility is available to other research institutes and industry and can make important contributions in a number of different areas. One early example of impact is a collaboration with a food company where the technology was used to identify microorganisms that were contributing to food defects and causing significant wastage. Now that these microorganisms have been identified, the food company has been able to introduce interventions to control them and to prevent the associated defects from developing. This technology has also been used by another food company to carry out genome sequencing of probiotic bacteria to ensure their safety before their further development for the food market. In this case, application of the sequencing technology has allowed the company to proceed with product development with confidence in the safety of the probiotic.

**OTHER CONTRIBUTORS AND COLLABORATORS:** Alimentary Pharmabiotic Centre (University College Cork).

**FUNDING:** Science Foundation Ireland and Teagasc grant-in-aid.



### SEXED SEMEN – REVOLUTION ON IRISH FARMS

Dr Stephen Butler



Sexed semen allows farmers to control the sex of calves born to their cows. Until 2012, its use in Ireland was low at approximately 10,000 straws per year, due to lower fertility of sexed semen. In 2013, Teagasc used 15,000 straws in a field research trial, possibly the largest such trial ever conducted in the world. Based on favourable results from this trial, it is estimated that the usage of sexed semen in 2014 will exceed 50,000 straws. This represents a 500% increase within one year. As a result of strong farmer demand, it is likely that a permanent sexed semen laboratory will be established in 2014. Greater usage of sexed semen has benefits for both the dairy industry (allowing faster expansion post quota), and the beef industry (fewer low value male dairy calves). This has the potential to be one of the most important technologies introduced on Irish farms in recent years.

**OTHER CONTRIBUTORS AND COLLABORATORS:** Almost 400 dairy herds were recruited onto the trial by ICBF in conjunction with Teagasc KT advisors and specialists.  
**FUNDING:** Teagasc grant-in-aid, ICBF, AI companies (Dovea Genetics, Munster AI and Progressive Genetics). Financial support was also provided by ABP, Kepak, Dawn Meats, Slaney Foods and the Agricultural Trust.

### PROTECTING HIGH QUALITY IMAGE OF IRISH BUTTER

Dr Bernadette O'Brien, Dr David Gleeson and Dr Kieran Jordan

Over the last five years research and knowledge transfer activities in Teagasc have led to the halving of trichloromethane (TCM) levels in Irish butter. TCM develops when chlorine (used as an ingredient in milking machine cleaning and disinfection products) comes in contact with milk. This residue is associated with the fat phase of the milk and thus may be present in increased concentrations in cream and, particularly, in butter. While there were no human health concerns arising from TCM in butter, the reduction was critical to allow Kerrygold butter to remain competitive within the German market. Approximately 25,000 milk samples are now screened annually for TCM at Teagasc. This data is used to identify problem farms so that corrective action can then be taken on the farm. This action is mainly focused on advice on the correct cleaning products to use and correct cleaning practices. This process has been assisted by a vigorous advisory campaign through Teagasc and the dairy companies and has resulted in Kerrygold butter achieving the very high standard set by the German market.



Image courtesy of Bord Bia

**OTHER CONTRIBUTORS AND COLLABORATORS:** Irish Dairy Board, dairy industry milk quality advisors.  
**FUNDING:** Teagasc grant-in-aid.

# TEAGASC

## RESEARCH IMPACT HIGHLIGHTS IN 2013

### HIGH WELFARE STATUS OF IRISH BEEF ANIMALS

**Dr Bernadette Earley and Dr Peter Lawrence**

Ireland is the fourth largest net exporter of beef in the world, with 85% of beef exported. However, concerns relating to the welfare of farm animals are becoming increasingly important within the European Union (EU) - with increasing amount of legislation designed to improve the welfare status of farm animals. A recently completed Teagasc study highlighted the positive welfare attributes of Irish grass-based beef production systems when benchmarked with the intensive beef production system in Belgium. The results of the study are playing a key role in developing the competitive image of Irish beef and are being used by Bord Bia to highlight the animal welfare-friendly practices of our beef production systems. The research has been communicated to retailers, media and NGOs in important European beef markets such as the Netherlands. Bord Bia also requested Teagasc to communicate the research findings to opinion formers as part of their International conference 'Our Food Our Future, Sustainability the Bottom Line', held in Dublin in September 2013.



#### **OTHER CONTRIBUTORS AND COLLABORATORS:**

**ILVO; Het Instituut voor Landbouw - en Visserijonderzoek, Belgium.**

**FUNDING: Teagasc grant-in-aid funding, Bord Bia.**

### GREENHOUSE GAS EMISSIONS AND AGRICULTURE

**Dr Rogier Schulte/Teagasc's Greenhouse Gas Working Group**



**OTHER CONTRIBUTORS AND COLLABORATORS: The Teagasc Working Group on Greenhouse Gas Emissions brings together the organisational expertise from Research, Advisory and Education.**

**FUNDING: Teagasc grant-in-aid, much of the underpinning greenhouse gas mitigation research has been funded by the Department of Agriculture, Food and the Marine Research Stimulus Fund.**

The work of Teagasc's Working Group on Greenhouse Gas Emissions has been instrumental in shaping the new policies on agriculture and climate change in Ireland, the European Union and is being discussed at the United Nations Framework Convention on Climate Change (UNFCCC) negotiations as a successor to the Kyoto Agreement post-2020. Our 'Marginal Abatement Cost Curve for Irish Agriculture' has set the 2020 ambition for the sector in contributing to the mitigation of climate change. Our recent report 'Carbon Neutrality as a Horizon Point for 2020 - a qualitative appraisal of potential pathways to 2050' has set the framework for the 2050 national ambition in addressing agricultural greenhouse gas emissions.



### SOCIOLOGICAL ANALYSIS – INFORMING CAP REFORM

**Dr Áine Macken Walsh**

A sociological study was commissioned by the Department of Agriculture, Food and the Marine (2012-2013) to inform the CAP reform process. The purpose was to assess the scope of a new enhanced cooperation measure in the European Agricultural Fund for Rural Development (EAFRD), which is aimed at increasing scale, efficiency and innovation in agriculture and rural development. Setting out the main areas of confluence between the cooperation measure and primary policy objectives of Food Harvest 2020, the study identifies the critical operational issues that are likely to affect the successful operationalisation and uptake of the measure if it were adopted in Ireland's Rural Development Programme. The findings of the report directly informed Ireland's incorporation and formulation of the following measures in its CAP Consultation Document & Operational Groups: Operational Groups; Support for Collaborative and Quality Focused Measures; Support for Collaborative Farming; Artisan Food Cooperation Schemes; Support for Quality Schemes.



**OTHER CONTRIBUTORS AND COLLABORATORS:** KAREN BROSNAN COMMUNICATIONS; TEAGASC RESEARCHERS, SPECIALISTS AND ADVISERS; FARMERS; INDUSTRY AND POLICY REPRESENTATIVES.  
**FUNDING:** Department of Agriculture, Food and the Marine.

### GLUTEN-FREE FOOD PRODUCTS

**Dr Eimear Gallagher**

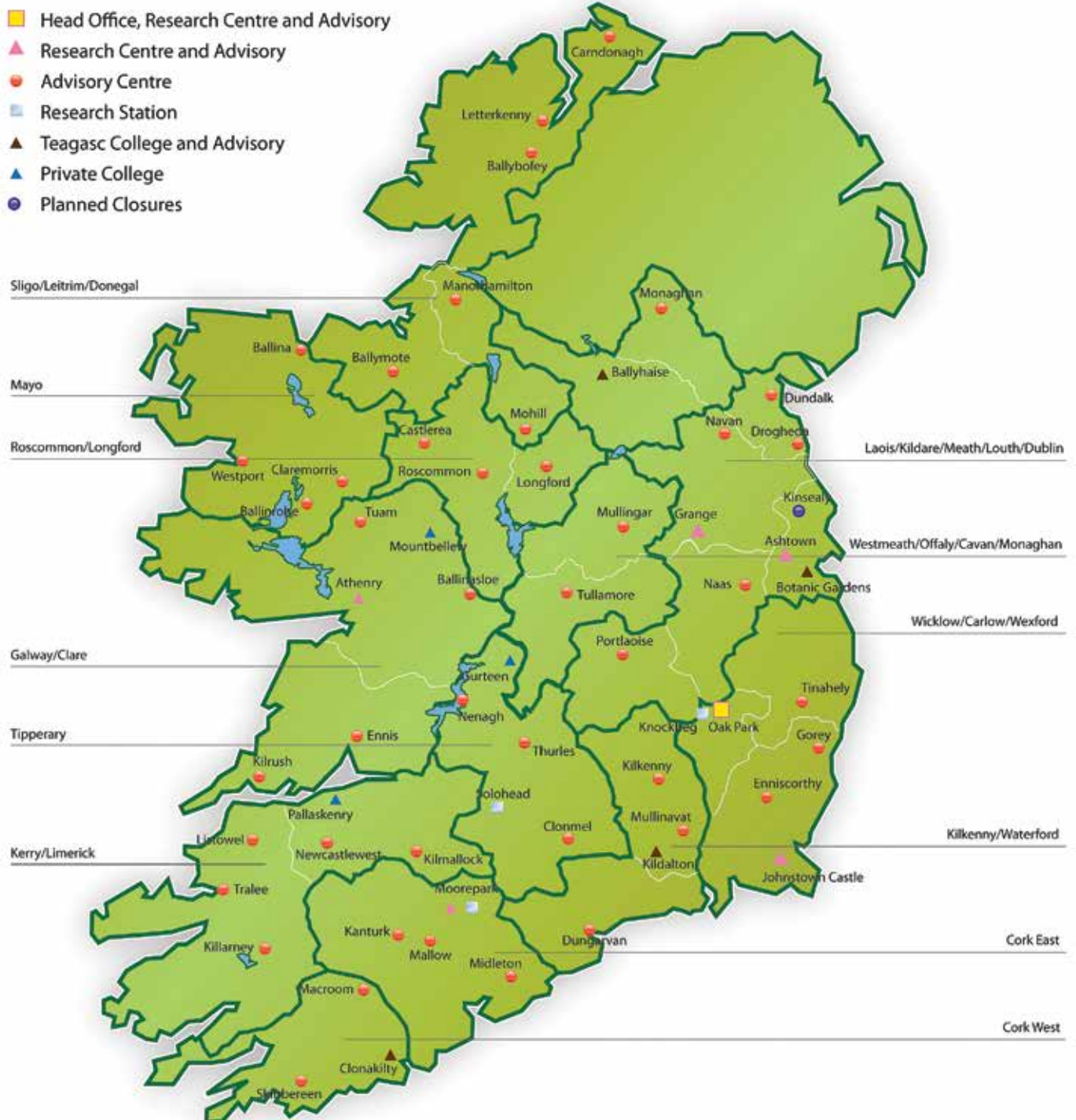


**OTHER CONTRIBUTORS AND COLLABORATORS:** UCC.  
**FUNDING:** Teagasc grant-in-aid, the Department of Agriculture, Food and the Marine FIRM programme, Enterprise Ireland.

Image courtesy of Bord Bia

The increased incidence/diagnosis of coeliac disease in Ireland, coupled with consumers following a gluten-free diet for other health reasons has resulted in a significant rise in the demand for high quality gluten-free products. This escalating demand has been paralleled by the improved selection and quality of gluten-free products on the market. Teagasc has developed an expertise in this area, and throughout 2013 has collaborated closely with a number of bakeries to contribute to the development and launch of new ranges of high-quality products on the Irish, European and international marketplace. In particular, novel gluten-free breads, with good texture and flavour, and confectionery-type products, have been developed. This has been achieved through collaborative baking trials between Ashtown and small and medium-sized bakeries, and has led to the development of a range of new gluten-free baked products.

# TEAGASC LOCATIONS





# RESEARCH PROGRAMMES

The Teagasc mission is to support science-based innovation in the agri-food sector and wider bio-economy that will underpin profitability, competitiveness and sustainability.

This is achieved through the close coupling of research and knowledge transfer in four programme areas:

- Animal & Grassland Research and Innovation
- Crops, Environment and Land Use
- Food
- Rural Economy and Development

Each of these programmes is composed of research, development and knowledge-transfer/industry-development departments, as outlined below. Research is conducted at seven dedicated locations, while knowledge transfer professionals are located throughout the country (see map opposite).

Our annual research portfolio comprises some 350 research projects, carried out by 500 scientific and technical staff in our research centres throughout Ireland.

In order to maximise the impact of our research, Teagasc actively collaborates with research organisations across the world. This collaboration stretches from individual projects and publications right up to formal alliances and partnerships.

## ANIMAL & GRASSLAND RESEARCH AND INNOVATION PROGRAMME

### Departments

- Animal & Bioscience Research
- Grassland Science Research
- Livestock Systems Research
- Pig Development
- Dairy Knowledge Transfer
- Drystock Knowledge Transfer

### Locations

- Athenry, Co. Galway
- Grange, Dunsany, Co. Meath
- Moorepark, Fermoy, Co Cork

## CROPS, ENVIRONMENT AND LAND-USE PROGRAMME

### Departments

- Crops Research
- Agri-Environment Research
- Forestry Development
- Horticulture Development
- Agricultural Catchments
- Crops Knowledge Transfer
- Environment Knowledge Transfer

### Locations

- Johnstown Castle, Co. Wexford
- Oak Park, Co. Carlow
- Kinsealy/Ashtown, Dublin

## RURAL ECONOMY AND DEVELOPMENT PROGRAMME

### Departments

- Agricultural Economics and Farm Surveys Research
- Spatial Analysis, Food Marketing and Agri-Innovation Research
- Farm Management and Rural Development Knowledge Transfer

### Locations

- Ashtown, Dublin 15
- Athenry, Co. Galway

## FOOD PROGRAMME

### Departments

- Food Biosciences Research
- Food Safety Research
- Food Chemistry & Technology Research
- Food Industry Development

### Locations

- Ashtown, Dublin 15
- Moorepark, Fermoy, Co. Cork



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Jane Kavanagh



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