

FoodMatters at Loughry



Welcome to our spring edition of Food Matters

In this issue our technologists once again highlight examples of the knowledge and technology transfer support services available to local food businesses. If you have any comments on the information included in this issue or wish to suggest topics for future issues, please do not hesitate to contact us.

Joy Alexander

Contacts

Head of Food Technology Development

Joy Alexander

Tel: 028 8676 8132

joy.alexander@dardni.gov.uk

Milk Technology

Dr Roisin Lagan

Tel: 028 8676 8153

roisin.lagan@dardni.gov.uk

Meat Technology

Aaron Whiteside

Tel: 028 8676 8133

aaron.whiteside@dardni.gov.uk

Fruit, Vegetable, Egg & Bakery Technology

Christine Haydock

Tel: 028 8676 8143

christine.haydock@dardni.gov.uk

Innovation

Fiona Ferguson

Tel: 028 8676 8148

fiona.ferguson@dardni.gov.uk

Energy & Waste Management

Teresa McCarney

Tel: 028 8676 8152

teresa.mccarney@dardni.gov.uk

Capability Development

Catherine Devlin

Tel: 028 8676 8114

catherine.devlin@dardni.gov.uk

Food for thought... looking to the future

Wednesday 9th April 2014, Loughry Campus

This event being organised by CAFRE and Invest NI is a must for your diary if you are considering taking the next step for your business.

Cliff Kells, Tesco and Geoff Brennan, Lynas Foodservice will outline what the retailer and food service buyer are looking for. If you are an early stage company or considering an alternative route to market these presentations will provide you with information on how the sectors operate, how and when to approach and what makes a good pitch.

Also:

- Douglas Faughnan from Mintel, will provide up to date market information on how the consumer shops today and how shopping habits are likely to change and the likely impact of this.
- There will also be an opportunity to hear the story of local entrepreneurs and the lessons they have learned.
- Afternoon workshops will focus on 'ideas' and converting those ideas into reality.

- Invest NI Innovation Advisor Ciaran McCartan, will hold a workshop 'Moving up the R&D Escalator' - providing information on what's of interest to the agri/food sector and the potential support available in the schemes; Horizon 2020, Technology Strategy Board and Small Business Research Initiative.



**Food for
thought**

Event details will be emailed out soon, but if you want further information:

[CONTACT US](#)

Technical Update Bulletins

In this publication we are detailing options of reducing salt in mayonnaise. If you would like to suggest any topics or areas of interest please contact us.

Cutting salt levels in mayonnaise

Scientific research links high levels of salt in the diet to high blood pressure, which increases the risk of coronary heart disease and stroke. The Food Standards Agency (FSA) has recommended the maximum salt intake for adults is 6 grams a day and less for children, but typically adults are consuming on average 8.5g a day. The project aim was:

- (i) to develop an organoleptically acceptable lower salt mayonnaise
- (ii) to assess the organoleptic effect of mayonnaise containing salt replacement ingredients.

Trial 1: Decreasing the level of salt in mayonnaise

Currently, salt levels range from 1-1.5% in retail brands of mayonnaise. Four mayonnaise recipes were formulated with the following salt levels 0.7%,

0.8%, 0.9% and 1% and the organoleptic properties of each mayonnaise was assessed using formal taste panels.

Table 1. Assessment of organoleptic qualities of mayonnaise samples with varying levels of salt

Attribute	Aroma	Texture	Flavour	Overall Acceptability
1.0% salt	5.25	5.08	5.58	5.50
0.9% salt	5.50	5.33	5.33	5.42
0.8% salt	4.67	5.00	5.00	5.00
0.7% salt	5.08	5.17	5.33	5.50

Scores are reflected using the hedonic scaling range. Scores of 5 and above are acceptable to consumers.

The results (Table 1) show similar scores for each organoleptic attribute between samples. This trial indicates that a 30% reduction in the salt level does not have an adverse effect on consumer taste for mayonnaise.

Trial 2: Assessing mayonnaise containing salt replacement ingredients

Both the mayonnaise samples containing 0.7% and 1.0% table salt were deemed acceptable to consumers and were used in the second trial as a comparison to mayonnaise samples containing salt replacement ingredients.

The salt replacement ingredients assessed were; LoSalt (NaCl & KCl) and Icelandic salt (NaCl, KCl & MgCl). The mayonnaise samples containing (0.7% & 1%) table salt received the highest scores for all attributes including overall acceptability when compared with samples containing salt replacement ingredients.

Table 2. Organoleptic qualities of mayonnaise samples containing salt replacement ingredients

Attribute	Aroma	Texture	Flavour	Overall Acceptability
1% Table salt	5.93	6.73	6.40	6.33
0.7% Table salt	5.80	5.87	6.07	6.00
0.7% LoSalt	4.73	4.67	3.93	4.07
0.7% Icelandic salt	4.33	4.80	4.60	4.27

Scores are reflected using the hedonic scaling range, scores of 5 and above are acceptable to consumers.

Conclusion

The development of a mayonnaise product with 0.7% salt was found to be acceptable to consumers. This product contained 30% less salt than a typical mayonnaise and hence could be labelled as a "reduced salt" product.

These were indicative trials only and further replication would be required to verify findings statistically.

For further assistance in reducing the level of salt in your food products:

[CONTACT US](#)

Innovative solutions for local artisanal meat producers

In recent months the Meat Technology Team at Loughry Campus has been actively engaged with several local artisanal meat companies, all seeking to explore innovative product ideas to assist them in further developing their business. From goat and game meat to 'healthier' sausages, the technologists have been challenged to create some unique product propositions and to assist companies in embedding them into production.

An Italian twist for Broughgammon Goats

Broughgammon Farm is a family run farm enterprise, situated on the outskirts of Ballycastle, Co. Antrim and specialises in goat meat, seaweed and rare breed sheep. Familiar to many following recent appearances on the BBC's Farm Fixer programme, the business aims to supply affordable, local artisan food with a high emphasis placed on sustainability and environmental protection.



To assist with further developing its goat meat opportunities, Broughgammon partnered with Loughry on a project which has created an exciting new product innovation, a Violina di Capra concept utilising goat leg meat. Based on an Italian artisan recipe the product is a cured, dried whole goat leg similar to prosciutto. Literally translated as 'goat violin' the product is traditionally passed around the Italian family table, being held like a violin, with diners slicing the meat off with a knife as if it were the violin's bow.

To help embed some of the meat technology principles learned during their project with Loughry, brothers Charlie and Sandy Cole are also currently completing the BTEC Advanced Award in Meat Technical Skills delivered at the campus.



Ruth Hyndman, CAFRE Food Technologist, reviews a HACCP plan with Charlie and Sandy Cole from Broughgammon Farm.

Innovative sausages deliver one of your 5-a-day

For many people with a young family, like owner of Mourne Farm Shop, Brian Patterson, healthy eating has become a key contributor to a healthier lifestyle. Driven by demand from his customers, Brian identified an opportunity to create a pork sausage that contained vegetables and benefited from having reduced levels of saturated fat, salt and sugar.

He engaged with Loughry to develop a solution to this ambitious goal. This resulted in an innovative product being created which overcomes all of the technically challenging requirements of healthy labelling legislation and industry guidance whilst still delivering on taste.

Key features of the new product include:

- A portion of two sausages contains sufficient vegetables to contribute one of the recommended 5-a-day.
- The sausage contains 3.8% saturated fat, 1.5% salt and 3% sugar.
- The sausage contains sufficient meat to be named as a 'pork sausage' under the reserved descriptions contained within the Meat Product Regulations.

Following sensory evaluation with consumer panellists, Mourne Farm Shop now offers these unique products on sale in a range of flavours including curry, smoky bacon and sweet chilli.



Cathal McDonnell, CAFRE Food Technologist, and Brian Patterson, Mourne Farm Shop, with some of the newly developed sausages.

Getting in on the game!

After previously working with Loughry in obtaining Approved Game Handling Establishment (AGHE) status, Baronscourt Estate has again been assisted by the college. This time on a project to develop products which add further value to the game meat currently produced.

Supported through an Invest NI Innovation Voucher, the business briefed a meat technologist to develop a new range of retail ready, pre-packed game meat products. The range of options created includes:

- Venison steaks
- Duck and pheasant portions
- A range of ready-to-cook venison and duck products with a selection of sauces
- Venison burgers and sausages
- Game burgers and sausages made from duck and pheasant meat

Production of some of the product range has required an extension to the current AGHE licence and food technology mentoring support provided by Loughry has assisted the company in gaining the necessary additional approvals.



For further information on food technology support available to meat and fish processing companies:

[CONTACT US](#)

Blessed are the cheese makers

Loughry Campus helps a Generation of Artisanal Northern Irish Cheese Producers make their mark in the cheese world.

Milk historically in Northern Ireland has been used for just about everything, but artisan cheese production has been lower by comparison with the rest of UK or Ireland.

This gap in the market has helped to inspire the country's recent wave of cheese makers. With support from Loughry, a number of these producers have been able to get assistance in investigating and developing their ideas into commercial products.

Julie Hickey (Tamnagh Foods) is the latest person following in the successful footsteps of Paul McClean (Kearney Blue Cheese) and Adam Kelly (Leggygowan Farm) to work on a new cheese concept at the college under the guidance of Dairy Technologist Gary Andrews.

Julie has identified a gap in the cheese market for an Extra Hard Cheese. The development stage involved a number of key steps including ingredient selection, recipe development, assessment and development of a HACCP food safety plan.

Julie has already invested in cheese processing facilities and impressive ripening rooms to take the project to the next stage and secure a customer base for her new cheese with the aim of starting commercial production in spring/summer 2014.

If you are interested in finding out more about farmhouse cheese production:

[CONTACT US](#)



Innovative new 'Black' Ice Cream

Glastry Farm Ice Cream has invested in another exciting collaboration, this time with a local brewing company, to add another innovative luxury dairy ice cream to its portfolio of products. Following the outstanding success of the Kilbeggan Irish Whiskey ice cream; which won a Great Taste Award in 2011, the company embarked upon another development challenge with a stout ice cream. The new product was created using Belfast Black Dry Stout from Whitewater Brewing Company, further highlighting the company's commitment to using locally sourced ingredients. The company was not satisfied with one new innovative product and they also decided to investigate the development of a Guinness ice cream. Mixing the 'black stuff' with the 'white stuff' has proved to be a winning combination.

The company received funding from Invest NI's Innovation Voucher scheme and worked closely with Food Technologists at Loughry Campus to develop the ice cream overcoming many technical challenges to obtain a high quality product. A number of different stouts were tested before settling on Whitewater's Belfast Black and Guinness, which resulted in a smooth ice cream with a distinctive stout flavour.

The ice creams have been tested at a number of food events and have received tremendous feedback from consumers. The company launched the new 'Belfast Black' and the 'Irish Stout' ice cream earlier this year and are eagerly awaiting to hear from restaurateurs who were keen to have the novel new products on the menu.



The new 'Belfast Black' and 'Irish Stout' ice cream.

A little taste of Italy in Cookstown

Martina Kilpatrick and her husband Frank help run the Quinn family business comprising two Spar Convenience Stores in Cookstown. Martina wanted to further her knowledge in food processing so initially completed a part-time BTEC Advanced Award in Dairy Processing Technology at Loughry Campus. This course helped Martina focus on the main manufacturing principles of many of the dairy processing operations and included workshops on introductions to dairy chemistry, microbiology, HACCP and ice cream.

They currently manufacture Gelato for their two local shops but wanted to expand this business to enable them to distribute the Gelato outside the local area. Having secured funding from Invest NI's Innovation Voucher the company worked with Food Technologists at Loughry to develop a base Gelato recipe. The company were keen to support other local businesses and therefore sourced as many of the raw materials locally. The Gelato has slightly less fat than standard ice cream therefore making that luxury treat a little more tempting.

Following the completion of the Innovation Voucher project they then decided to move one step further and embarked upon the Food Enterprise Development Programme.

This is a six month programme which provided the company with an opportunity to market test their product without the initial investment in food equipment and facilities. Companies can use the food manufacturing facility in the Food Technology Centre one day per week for 20 weeks supported by a food technician and food technologist. Martina and Frank are currently pursuing new market opportunities and investigating new premises to enable them to expand the business and make the luxury Gelatos readily available.

If you are interested in finding out more about the services provided by the Dairy Team:

[CONTACT US](#)



Martina Kilpatrick and Loretta McNally display their range of Gelato.

Donegal Rapeseed Oil win Great Taste Award



Donegal Rapeseed Oil recently achieved a Great Taste Award for their cooking oils. They have partnered with Loughry Campus through the Innovation Voucher scheme to investigate product development opportunities.

A range of delicately infused oils have been developed, with the lemon infused product winning Gold in Blas na hEireann 2013 awards, and the chilli infused oil receiving a gold star award in 2013 Great Taste Awards.

To complement the new products, work is underway to investigate exciting new packaging concepts.

If you would like to receive further information on services provided by the General Food Team:

[CONTACT US](#)



Alan Johnston, Loughry Campus and Thomas Hughes from Donegal Rapeseed oil.

Start up and grow a food business conference

Loughry Campus held a one day seminar entitled 'Start up and grow a Food Business'. The conference introduced fifty entrepreneurs to areas which merit consideration when establishing a food business. Delegates from all parts of the province came with an impressive range of innovative conceptual ideas, spanning a wide range of foods and beverages and were keen to learn about the critical issues in beginning commercial food production.

Topical issues, including legislation, product development, quality management systems and process controls were discussed in relation to both production and also retail customer requirements. Mechanisms of support, including technical and financial, to assist the development of these key areas were highlighted. Sensory evaluation of products was carried out and much was gained from this practical session.

Delegates were receptive of the information presented and were given much to think about and address as they join the dynamic world of food processing.

Richard and Alison Leighton from Eglinton said, 'We have had a useful day. It has been invaluable providing use with a broad overview of the various aspects of food production that we need to consider. Lots of practical information was presented and ideas discussed by friendly, yet professional CAFRE staff'.

If you would like further information on technical support to the food processing sector:

[CONTACT US](#)



Speakers and delegates at the 'Start up and grow a food company' conference held at the Loughry Campus: Alison Leighton, Eglinton, Martin McKendry, CAFRE, Richard Leighton, Eglinton, Joy Alexander, Loughry Campus, Claire Heron, Invest NI, Gillian Colhoun, Designwrite and Richard Christie, Invest NI.

Your role in a healthier Northern Ireland part 2 event held at Loughry Campus

Following on from a successful event in January 2013, the IFST (Institute of Food Science and Technology) together with partners British Psychological Society, Food Standards Agency(FSA) and CAFRE held a half day conference on the role of diet and health.

The event focused on the psychological and physiological factors which influence our relationship with food. Significant progress has been made in the last twelve months in calorie information being made available at point of sale in restaurants, take away outlets and work based canteens.

Speakers from Tesco and the FSA and FSA (Northern Ireland) outlined the approach of their organisations to this important topic.

The event concluded with a lively debate over portion control, attitudes to food and how the subject could be progressed further.

We all look forward to a further conference in 2015.



Food Labelling – what you need to know

The Food Standards Agency in Northern Ireland, in partnership with Loughry Campus, hosted a one day workshop focusing on the new labelling legislation, 'Food Information for Consumers Regulations (EU) No 1169/2011.' The programme provided an in-depth look at legislative changes in food labelling and included issues relating to nutritional and health claims. The event provided a practical session when delegates got the opportunity to review labelling examples and apply their new knowledge.



Joy Alexander, Head of Food Technology Development Branch, Loughry Campus, Mervyn Briggs, Senior Policy Officer FSANI, Alan Martin, Ballyrashane Co-op, Ron Ennion, Public Analyst, and Sharon Gilmore FSANI.

For further details on the new regulations:

[CONTACT US](#)

Do you require training with Root Cause Analysis (RCA) to comply with BRC standard?

The BRC Global Standard for Food Safety now identifies the significance and importance of RCA to be documented and carried out as part of complying with the standard. To assist companies with this requirement Loughry Campus recently held a training session. One company who availed of this training was Skea Eggs. This enabled them to develop the technical capabilities of their staff, and satisfy the BRC requirements. Betty McLean, QA Officer from Skea Eggs said "this course was very interactive and outlined practical implementation ideas to allow us to meet the BRC requirements."



Pictured are some of the trainees, from Skea Eggs with Deborah Whinnery (centre) course trainer.

Loughry Campus is offering this highly interactive course on the requirements of RCA as part of the BRC Global Standard on Wednesday 7th May 2014. This course will look at:

- The RCA requirements of the BRC standard
- Methods of RCA
- Integration into existing Quality Management Systems
- Recording and implementation of RCA

This one day course will benefit delegates right across the entire range of roles within an organisation from technical, engineering, manufacturing and management. To book your place or gain more information:

[CONTACT US](#)

Auditing Quality Management Systems with the Foyle Food Group

Smiles all round as Caroline Monaghan, Bryan O'Neill and Clinton Anthony from The Foyle Food Group, successfully complete their Auditing Food Quality Management Systems Level 4 Award with Loughry Campus. Effective audits are very much the focus of current business. Food processors rely on quality management systems to assure food is safe for the consumer. These systems must be audited to prove compliance with standards. Increasingly there is a requirement for knowledge and skills linked to audits.

This programme offers learners an overview of the theory and general principles of auditing food safety management systems. Learners develop the ability to conduct a first and second party audit of a food safety management system against previously established standards. For further information:

[CONTACT US](#)



Rosemary Brennan, Course Tutor with some of the Foyle Food Group trainees.

The HACCP Management for Food Manufacturing Level 4 Award accredited by the Royal Society for Public Health (RSPH), is a five day programme aimed to develop an understanding of the HACCP based food safety management. The course is aimed at supervisors and managers working within the food industry. Holders of this qualification will have the appropriate knowledge and understanding to be an integral part of a HACCP team and to lead and manage the implementation of a HACCP based system in the work environment. For full details of the course duration, syllabus content and assessment methods:

[CONTACT US](#)



Carmel McKeever and Alistair Gault from Avondale Foods receive their HACCP Management for Food Manufacturing Level 4 Award certificates from tutor Rosemary Brennan, Loughry Campus.

Food Safety Training

Members of staff from Premier Bakeries have recently availed of on-site food industry training provided by Loughry Campus. Staff completed CIEH Level 3 and Level 2 Awards in Food Safety. Loughry Campus offers the flexibility to meet your training needs. If you would like to discuss training needs in your company:

[CONTACT US](#)



Pictured are Ruth McIntyre (left), Compliance Manager, Premier Bakeries Ireland, members of staff who completed Level 3 Food Safety and Clare Millar, Loughry Campus (right).

'Boot Camp' at Loughry for Food Engineers

In response to industry need, the Department of Employment and Learning, DEL, is funding a four year Modern Apprenticeship programme to train engineers specifically for the Food Manufacturing industry.

The programme started on 6th January 2014 with a two week 'boot camp' at Loughry Campus to introduce the candidates to the unique characteristics of the food manufacturing sector. The 'boot camp' included a mixture of short certificate courses including Level 2 Food Safety in Manufacturing, Health and Safety, HACCP and Environmental Principles and Practice, as well as a range of food manufacturing practicals.

The remainder of the four years will be spent working within a food company, these include Moy Park, Dale Farm and Thompsons, whilst undertaking engineering qualifications with the Southern Regional College.

We wish them all the very best.



Food Engineer Apprentices with their CIEH Food Safety in Manufacturing certificates.

Loughry attends the Potato Festival at the Giants Causeway

Food technologists attended the first potato festival at Innisfree Farm, at the Giants Causeway, once the homestead of John Clarke, a pioneering potato breeder who was awarded an OBE for breeding the first blight-resistant crop of potatoes.

The fun filled family event included artisan food stalls, colouring competitions and cookery demonstrations. The Loughry exhibition stand provided information on the versatility of the potato, Food Technology services available for the food industry and courses available at CAFRE.



Deborah Whinnery, Christine Haydock, and Valerie Finlay on the CAFRE stand.

New staff at Loughry



Emanuele Armaforte has joined the Food Technology Development Branch at Loughry as a Food Technology Technician. Emanuele has a BSc Honours Degree in Food Science and Technology and a PhD in Food Science; he also has three years experience working in the food industry as a NPD technologist. As a Food Technology Technician Emanuele will provide support to the advisory and educational teams during kitchen, plant trials and practicals with students.

[CONTACT US](#)

Short Training Courses 2014

(CIEH) Level 4 Award in Food Safety Management for Manufacturing

Dates: 5th, 12th, 19th, 26th February & 5th March 2014

Exam: 10th March 2014

Assignment: 13th March 2014

Cost: £390

Aimed at managers working within the food processing sector.

(CIEH) Level 3 Award in Food Safety Supervision in Manufacturing

Dates: 4th, 11th, 18th February 2014

Exam: 25th February 2014

Cost: £180

Aimed at supervisors working within the food processing sector.

(CIEH) Level 2 Award in Food Safety in Manufacturing

Date: 6th March 2014

Cost: £55

Aimed at everyone working within the food processing sector.

RSPH Level 4 Award in HACCP Management – Food Manufacturing

Dates: 1st, 8th, 15th, 22nd, 29th May, 5th June 2014

Exam: 12th June 2014

Cost: £390

Recommended for Management and HACCP team members (knowledge of HACCP is essential).

(CIEH) Level 3 Award in HACCP for Manufacturing

Dates: 20th & 21st May 2014

Exam: 27th May 2014

Cost: £200

Recommended for management and HACCP team members (knowledge of HACCP is essential).

RSPH Foundation Certificate in HACCP

Date: 20th March 2014

Cost: £55

Recommended for HACCP team members.

Short Training Courses 2013-2014 continued

Edexcel Professional Award in Auditing Food Quality Management Systems (Level 4 course)

Dates: 2nd April & 3rd April 2014

Assessment: 9th April 2014

Cost: £370

Recommended for supervisors and managers involved with preparing companies for internal and external audits e.g. BRC/EFSIS.

EdExcel Level 3 Auditing for Continuous Improvement

Date: 11th March 2014

Cost: £55

Recommended for supervisors and managers who undertake internal auditing or have responsibility for the company's internal auditing system.

Level 3 Award in Training Skills and Practice

Dates: 13th & 14th May 2014

Assessment: 3rd or 4th June 2014

Cost: £270

For those with Level 4 Food Safety or Health & Safety qualifications who wish to become recognised trainers.

CIEH Level 2 Award in Environmental Principles, and Best Practice

Dates: 21st February 2014

Cost: £55

Recommended for everyone involved in Waste Management and Energy Efficiency.

CIEH Level 2 Health and Safety in the Workplace

Dates: 9th May 2014

Cost: £55

Recommended for everyone involved in Health and Safety in the workplace.

For further information:

[CONTACT US](#)

ISBN: 978-1-84807-453-8