Six Years of the Scientific Committee: 2005-2010

On 31 January 2005, the Minister for Health and Children appointed the second Scientific Committee under the Food Safety Authority of Ireland Act, 1998. This Committee came to the end of its term at the end of 2010 and on the eve of the establishment of the third Scientific Committee by the Minister, we would like to recognise the members and reflect on the achievements of the second Committee.

The Scientific Committee consists of 15 members from a range of scientific disciplines relevant to the work of the FSAI. The committee members perform a vital role for the FSAI, ensuring that risk management decisions taken by the Authority are underpinned by sound scientific advice and risk assessment.

The FSAI Act charges the Scientific Committee with the responsibility of providing scientific advice to the Board in three areas:

- Scientific and technical questions relating to food safety and hygiene
- The implementation and administration of the food inspection services
- The nutritional value or content of food.

The Scientific Committee may also undertake other or further investigations, assessments, research or examination into a matter referred to it whilst taking into account budgetary and resource constraints. It may also initiate any investigation, assessment or examination of a food safety and hygiene issue providing it first informs the Board.

The FSAI Act allows the Scientific Committee to establish Sub-committees to advise and assist in conducting its work. The second Scientific Committee created five Sub-committees, each chaired by a member of the Scientific Committee. The Sub-committees are subject-specific and comprise between nine and fifteen scientists. In total, the Scientific Committee structure provides the FSAI with the advice of 56 scientists, all working in a voluntary capacity. This represents an invaluable resource for the FSAI and an important service to the Irish public.

Pictured at the first meeting of the second Scientific Committee. Back row (l-r): *Prof. Colin Hill, Dr Mark Lynch, Mr Cathal Kearney, Prof. John Daniel Collins, Dr Philipp Hess, Dr Mary Flynn, Prof. Brian McKenna*
Front row (l-r): *Ms Paula Barry-Walsh, Dr Catherine Adley, Mr Michael O'Keeffe, Prof. Albert Flynn (Chair), Dr Eibhlin Connolly, Dr Paul McKeown, Prof. Michael Ryan*

Second Scientific Committee Members

Prof. Albert Flynn, Prof. in Nutrition, UCC (Chair)

Prof. Dan Collins, Prof. Emeritus of Farm Animal Clinical Studies, UCD

Mr Ray Parle, Principal Environmental Health Officer, HSE

Dr Terry McMahon, Shellfish Safety Manager, Marine Institute

Dr Colette Bonner, Deputy Chief Medical Officer, DoHC

Prof. Michael Ryan, Dean, Doctoral Studies/ Post-doc Training, UCD

Ms Paula Barry-Walsh, Senior Superintending Veterinary Inspector, DAFF

Prof. Martin Cormican, Prof. in Bacteriology, NUIG and Consultant Microbiologist, HSE

Dr Paul McKeown, Consultant, Public Health Medicine, HSE

Dr Catherine Adley, Head of Chemical and Environmental Sciences, UL

Prof. Colin Hill, Professor of Microbial Food Safety, UCC

Prof. Brian McKenna, Prof. Emeritus of Food Science, UCD

Dr Michael O'Keeffe, Retired Senior Principal Research Officer, Teagasc

Dr Iona Pratt, Retired Chief Specialist Toxicology, FSAI

Dr Dan O'Sullivan, Head of Residues Division, DAFF

Former members:

Dr Eibhlin Connolly, DCMO, DoHC

Mr Cathal Kearney, PEHO, HSE

Dr Philipp Hess, Former Team Leader Biotoxin Chemistry, MI

Dr Mark Lynch, Retired Head of the Pesticide Control Service, DAFF

Dr Mary Flynn, Consultant Dietician

FSAI Scientific Committee Secretariat

Dr Wayne Anderson

Ms Eileen Lippert

Six Years of the Scientific Committee: 2005-2010

Since 2005, the Scientific Committee has published 14 reports (Table 1). In addition, scientists in the Scientific Committee structure have also peer reviewed work developed by scientists in the FSAI and provided advice on a range of diverse food safety issues such as BSE, GMOs and novel foods.

The Chief Executive and staff of the FSAI would like to recognise the contribution of each and every scientist who has advised us over the past six years. We wish to thank them wholeheartedly for their dedication and professionalism.

Table 1: Reports of the second Scientific Committee

Published

2005: The control and management of *Listeria monocytogenes* contamination of food

2005: Salt and Health

2006: Risk assessment of Azaspiracids (AZAs) in shellfish

2007: Recommendations for a national policy on vitamin D supplementation for infants in Ireland

2008: Gluten free foods

2008: Food safety implications of land-spreading agricultural, municipal and industrial organic materials on agricultural lands used for food production in Ireland

2008: The relevance for food safety of applications of nanotechnology in the food and feed industries

2008: Zoonotic Tuberculosis and food safety

2009: *Mycobacterium avium* subsp. *Paratuberculosis* and the possible links to Crohn's disease

2010: Guidance on food additives

2010: The prevention of Verocytotogenic *Escherichia coli* (VTEC) infection: a shared responsibility (2nd Edition)

For publication in 2011

Campylobacter control programme in poultry

National infant feeding policy (2nd Edition)

Review of the sampling and microbiological examinations undertaken by the HSE, 2007 & 2008

Nicola Canning, a delegate at a seminar on food additives, holds a copy of the 2010 report, 'Guidance on Food Additives' produced by the Food Additives, Chemical Contaminants and Residues Sub-committee of the Scientific Committee.

Sub-committees of the Scientific Committee

Sub-committees of the Scientific Committee

- Food Additives, Chemical Contaminants and Residues
- Microbiology
- TSE
- GMO
- Nutrition and Novel Foods
- Nanotechnology (Ad-Hoc Sub-committee)

Food Additives, Chemical Contaminants and Residues Sub-committee

The Food Additives, Chemical Contaminants and Residues Sub-committee (FACR) provides the Scientific Committee with advice on the chemical safety of food. Since 2005, the Sub-committee has drafted opinions on many diverse issues.

In 1995, Ireland was the first country to identify a new marine biotoxin called azaspiracid (AZA). Human intoxication, termed azaspiracid poisoning (AZP), is associated with the consumption of shellfish contaminated with AZAs. An updated risk assessment for AZAs in shellfish was prepared by the Sub-committee in August 2006. This work featured heavily in a more recent opinion on marine biotoxins issued by the European Food Safety Authority (EFSA).

In the food additives area, the Sub-committee adopted a guidance document giving information to the food industry and enforcement officers on controls on the use of additives in food in Ireland. Food additives are used to preserve food, or enhance its quality or appearance. The use of such substances in food is controlled by a comprehensive legislative framework that has been put in place across the European Community. This legislation, together with legislation on flavourings and enzymes used in food, has recently been updated with the adoption of the package of regulations covering the use of food improvement agents. Guidance on such complex legislation is valuable to support increased levels of industrial compliance as well as consistent enforcement during official controls.

The Sub-committee also drafted an opinion on gluten and gluten-free foods in 2008. This report addressed a number of issues concerning gluten-free foods including their nutritional quality and the need for Irish standards for levels of gluten in food suitable for people who are intolerant to it. The report made recommendations on safe levels for gluten in gluten-free and reduced-gluten foodstuffs, and the labelling of such products.

Members of the Sub-committee on Food Additives, Chemical Contaminants and Residues: Prof. Michael Ryan (Chair), Dr Michael O'Keeffe, Dr Dan O'Sullivan, Dr Claire Chambers, Dr Edel Healy, Dr Evin McGovern, Mr John Moriarty, Mr Padraig Burke, Dr Thomasina Barron, Dr Iona Pratt, Dr Terry McMahon.

FSAI Scientific Secretary: Dr Rhodri Evans

Additional Scientists: Dr Fiona Stevens, Dr Gavin Ryan

Microbiology Sub-committee

Since 2005, the Microbiology Sub-committee has drafted opinions on the risk of foodborne transmission of *Listeria monocytogenes*, *Mycobacterium bovis* (which causes tuberculosis) and Verocytotoxigenic *E. coli* (VTEC). These opinions identified foods at risk of contamination and included guidance on how these microorganisms can be controlled by relevant sectors in the food chain. They also presented guidance on measures required by regulatory authorities and public health bodies to help safeguard the consumer.

The Sub-committee has continued to keep a watching brief on the international debate surrounding a possible link between *Mycobacterium avium* subsp.

paratuberculosis (referred to as MAP) and Crohn's disease. An updated opinion was drafted for the Scientific Committee in 2009. The Scientific Committee reiterated its previous opinion that the available evidence did not support a causal relationship.

Increased public awareness and concern in relation to environmental issues and significant changes in the regulatory requirements for the protection of the environment, such as the European Communities Good Agricultural Practice for Protection of Waters Regulations 2006, provided the background to a report on land-spreading of organic material on agricultural land used for food production. The report specifically addressed the risks associated with the long established practice of land-spreading of organic agricultural and the more recent practice of spreading organic municipal and industrial materials.

Following a national survey of bottled water in which 7.2% of samples tested failed to meet European microbiological standards or guidelines, the Sub-committee drafted an opinion on the food safety risks posed by such water.

In the final act of its term, the Microbiology Sub-committee signed off on two reports which were subsequently adopted by the Scientific Committee in December 2010. One of these presents a proposal for a national control programme for *Campylobacter* species in the broiler (chicken) supply chain. The other report reviews the sampling and microbiological analysis undertaken by the HSE to advise FSAI on the strengths and weaknesses of the current approach. These reports will be published in 2011.

Over the past six years, the Microbiology Sub-committee has examined a range of microbial risks and provided an invaluable voluntary resource to the FSAI. Sadly one of its members, Helen Cowman, passed away in 2010. Her enthusiastic, considered and practical contributions have been missed.

Microbiology Sub-committee Members: Prof. Martin Cormican (Chair), Dr Bill Doré, Dr Cyril Carroll, Mr David Nolan, Dr Geraldine Duffy, Prof. Dan Collins, Mr Ray Parle, Ms Paula Barry-Walsh, Dr Paul McKeown, Dr Catherine Adley, Prof. Colin Hill, Dr Neil Rowan, Dr Michael Fallon, Prof. Seamus Fanning, Dr Tom Beresford, Ms Helen Cowman, RIP

FSAI Scientific Secretary: Dr Lisa O'Connor

Additional Scientists: Dr Declan Bolton, Mr Kilian Unger, Dr Paul Whyte, Dr Kieran Jordan, Dr Monserrat Gutierrez, Dr Niall Delappe, Dr Mary Murphy, Mr Cecil Alexander, Mr David Smith, Dr Jimmy McLaughlin, Dr Owen Carton, Prof. William Magette, Mr Vincent Young, Dr Vera Nicholson, Dr Patricia Garvey.

TSE Sub-committee

The Transmissible Spongiform Encephalopathy (TSE) Sub-committee was formed by the Scientific Committee to keep the FSAI up-to-date with scientific knowledge on nv-CJD in humans and to maintain a review of the progress of Irish controls on BSE in cattle. Over the last five years, the Sub-committee advised the FSAI via the Scientific Committee on hazards associated with TSEs and related risks, on national monitoring and controls for consumer protection and also on new legislative requirements. The Sub-committee commissioned and reviewed FSAI audits on the control of specified risk materials (SRM) in meat plants and butcher shops to ensure minimum consumer exposure to TSE prions.

Pictured at the launch of the Scientific Committee report on Food Additives were Dr Iona Pratt, Scientific Committee member and Dr Rhodri Evans, Chief Specialist Toxicology, FSAI.

Contingency plans for the development of BSE-like prions in sheep and goats were drawn up to control human exposure should findings in continental Europe be discovered in Ireland. The Sub-committee also reviewed the decline of BSE in cattle in Ireland and advised on the applicability of a targeted cull. Since 2005, the number of cases of BSE in cattle has significantly reduced with only two cases reported in older cattle in 2010. As cases have decreased, changes to controls have been necessary and the TSE Sub-committee has been at the forefront in providing scientific advice to underpin these new controls.

TSE Sub-committee Members: Prof. Dan Collins (Chair), Dr Colm Henry, Mr Declan Mulhare, Dr John Griffin, Dr Margaret O'Sullivan, Prof. Mark Rogers, Mr Michael Sheridan, Mr Sean O'Laoide

FSAI Scientific Secretary: Mr John Matthews

GMO Sub-committee

The authorisation process for GM food and feed is based on Regulation EC No. 1829/2003 and begins with a safety assessment carried out by EFSA. Member States have opportunities to comment on the application dossier and the subsequent EFSA safety opinion. T he FSAI is the Competent Authority in Ireland for enforcing GM food legislation and is assisted by the GMO Sub-committee in assessing the safety of GM food on a case by case basis. Utilising the expertise of plant biologists, botanists, microbiologists and

Pictured at the launch of the report 'Food Safety Implications of Land-spreading Agricultural, Municipal and Industrial Organic Materials on Agricultural Land used for Food Production in Ireland' are (l-r): Prof John Daniel Collins, University College, Dublin, Chair of the Scientific Committee Working Group on Land-spreading and Prof Martin Cormican, National University of Ireland, Galway, Chair of the Microbiology Sub-committee.

Six Years of the Scientific Committee: 2005-2010

Prof. Albert Flynn, Chair of the second FSAI Scientific Committee, pictured here with Prof. Alan Reilly, Chief Executive, FSAI.

animal scientists, the FSAI is in a position to make informed scientific comment on the application dossiers submitted, as well as review the assessments carried out by the GMO panel of EFSA. In the last five years, the GMO Sub-committee has reviewed 24 applications relating to GM maize, two relating to GM cotton and one each for potato, rice, soya, sugar beet and oilseed rape. With the exception of the GM potato, which targeted the starch production industry, all of these GM plants are engineered to resist attack by certain pests and/or tolerate applications of select herbicides.

GMO Sub-committee Members: Prof. Colin Hill (Chair), Dr Brendan Lynch, Prof. Douwe van Sinderen, Dr Eddie Walsh, Mr Ewen Mullins, Mr Gerry McMahon, Mr John O'Neill, Prof. Matt Harmey, Dr Philip Dix, Mr Tom McLoughlin, Dr Tommy Gallagher, Dr Liam Hyde

FSAI Scientific Secretary: Dr Patrick O'Mahony

Nutrition and Novel Food Sub-committee

This Sub-committee considers the scientific aspects of nutritional issues affecting public health in Ireland and drafts opinions for the Scientific Committee in the area of public health nutrition. In many cases, these opinions are directly relevant to the Department of Health and Children when developing national policy in this important area. Over the past five years the Nutrition Sub-committee has investigated vitamin D deficiency in infants, best practice in infant feeding throughout the first year of life and healthy eating for the prevention of diet-related diseases (such as heart disease and cancer) and health promotion for the population of Ireland.

Novel foods are foods or food ingredients that were not available on the EU market to a significant degree prior to May 15, 1997, which is when the legislation came into force (Regulation EC No. 258/97). A food business that wishes to market a novel food or food ingredient for the first time in the EU must submit an application for authorisation to the competent Authority in the Member State where the food shall be first marketed. In Ireland, the FSAI is the competent Authority for novel food.

The FSAI consults with its Nutrition and Novel Food Sub-committee when reviewing safety assessments submitted by other Member States. Since 2005, the Sub-committee has evaluated 34 novel food applications and safety assessments that include a wide range novel foods and food ingredients. These include lycopene, Antarctic krill oil, kiwiberry, chewing gum base, ice structuring protein, honey with bee venom and magnolia bark extract. The expertise and experience of scientists from a variety of nutritional and dietetic settings available to the FSAI through the Nutrition and Novel food Sub-committee has enabled high quality contributions to the novel food authorisation process by Ireland, which has one of the best response records amongst the 27 Member States.

Nutrition and Novel Foods Sub-committee Members: Prof. Albert Flynn (Chair), Dr Celine Murrin, Prof. Helen Roche, Prof. Helene McNulty, Dr Maureen McGowan, Prof. Ivan Perry, Ms Ita Saul, Dr John Kearney, Dr Mairead Kiely, Prof. John Scott, Dr Sinead McCarthy, Ms Ursula O'Dwyer

FSAI Scientific Secretary: Dr Mary Flynn

Additional Scientists: Prof. Barbara Livingstone, Ms Catherine Murphy, Dr Cliodhna Foley Nolan, Ms Margot Brennan, Dr Claire O'Brien, Ms Patricia Lee, Prof. Patrick Wall, Dr Philip Crowley, Ms Fiona Dunlevy, Ms Maureen Fallon, Dr Marion Faughnan, Ms Mary O'Connor, Dr Colm O'Donnell, Ms Sheilagh Reaper-Reynolds, Dr Margaret Sheridan-Pereira, Ms Aisling Wilson

Ad-Hoc Sub-committee on Nanotechnology

The Scientific Committee also has the option to create an ad-hoc Sub-committee to draft opinions of issues not covered by the standing Sub-committees. During the term of the second Scientific Committee, only one such group was created to draft an opinion on the food safety implications of nanotechnology.

Nanotechnology is a term used to describe the production and use of very small particles (nanoparticles) to produce new structures (nanoforms) and materials (nanomaterials) that can be used in a wide variety of applications such as medicine, engineering, food and feed production and biotechnology. Nanotechnology is a major area of academic and industrial research and has the potential to provide huge benefits to the economy. The developments in the field are not without associated controversy, however, particularly in relation to applications of nanotechnology in the production of food.

In 2008, the Scientific Committee issued a report on the issue, entitled *'The Relavance for Food Safety of Applications of Nanotechnology in the Food and Feed Industries'*. The report concluded that the general principles applied to assessing the risk of any hazard can be applied to nano-based food. There are, however, gaps in the knowledge base about the possible hazards of nanoparticles and how to assess them, which need to be addressed. Since little is currently known about the possible effects of applications of nanotechnology in food production, there is a need to ensure that regulatory (or legislative) controls are adequate to safeguard human health.

Ad-Hoc Sub-committee on Nanotechnology Members: Dr Iona Pratt (Chair), Dr Mark Fenelon, Mr Thomas Harty, Dr Iseult Lynch, Dr Maria Davoren, Dr Sandy Lawrie, Dr Gordon Chambers, Prof. Kenneth Dawson, Prof. Marek Radomski

FSAI Scientific Secretaries: Dr Rhodri Evans, Dr Patrick O'Mahony, Dr Wayne Anderson