



land-spreading of organic materials

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A recently published report '*Food Safety Implications of Land-spreading Agricultural, Municipal and Industrial Organic Materials on Agricultural Land used for Food Production*', addresses the issues surrounding the land-spreading of organic agricultural (OA) and organic municipal and industrial (OMI) materials on agricultural land used for food production. Produced by the FSAI's Scientific Committee, the report reviews the current scientific knowledge in relation to the treatment, management and best practice options available to prevent food safety risks from land-spreading. In the report, the legal framework under which controls are implemented is summarised. The report also acknowledges opinions from other agencies on the level of compliance with these best practices and highlights the implications that non-compliance may have for food safety.

Appropriately managed land-spreading provides a sustainable option for the utilisation of organic waste materials. However, food safety must be safeguarded and this requires the implementation of effective controls and the consistent application of good practice by all parties involved. In the absence of these measures, land-spreading of organic materials on agricultural land used for food production may pose both microbiological and chemical risks to food safety.

Ready-to-eat produce (i.e. food not cooked before consumption) pose a particular food safety risk when land on which they are grown is spread with OA or OMI materials.

Other foodstuffs have processes applied to them before they reach the consumer and thus, often reduce or minimise contamination risks. Both OA and OMI materials can contain human pathogenic bacteria and OMI material in particular can also contain chemical contaminants from industrial processes. However, there are gaps in current knowledge concerning the transfer of chemical contaminants and pathogens into the food chain through land-spreading of OMI materials on agricultural land used for food production.

Control and monitoring of the source material is of particular importance in the case of OMI, as the source of the material is likely to stem from many different industrial and municipal sources, some of which may not be readily traceable. Trends indicate a significant increase in the use of treated OMI materials in agriculture in Ireland, although at present, the proportion of OMI relative to OA materials spread on agricultural land is very small. However, the report suggests that controls on the disposal of septic tank waste are strengthened as untreated human waste poses a particular risk to the safety of food crops.

The primary responsibility for food safety rests with the food business operator and it is necessary to ensure food safety throughout the food chain, starting with primary production on the farm.

A copy of the report is available on our website, www.fsai.ie.



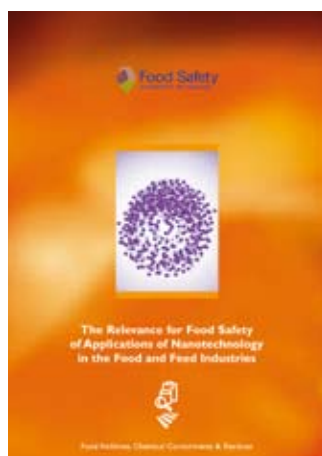
Pictured at the launch of the report are (l-r): Prof John Daniel Collins, University College, Dublin, Chair of the Scientific Committee Working Group on Land-spreading; Prof Martin Cormican, National University of Ireland, Galway, Chair of the Microbiology Sub-committee; and Mr Alan Reilly, Deputy CEO, FSAI.

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nanotechnology - the new science (or is it)?



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. Some cosmetic products contain nanoparticles, and many other uses are being actively researched. Polluted air also contains particles with sizes ranging down to the nanoscale, which can be inhaled into the lungs.

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, some commentators are drawing a parallel between the application of nanotechnology in food and that of the technology used to produce GM foods. A number of international expert committees have therefore considered whether new approaches need to be taken on the assessment of the potential risks of nanoparticles in food.

The FSAI has just published a report on the issue, entitled 'The Relevance for Food Safety of Applications of Nanotechnology in the Food and Feed Industries'.

applications

There are many potential applications of nanotechnology in food and feed. Potential benefits include masking of taste and odours, protection of ingredients during processing and digestion, and enhanced bioavailability. For example, nanoencapsulation of fish oils (omega 3 fatty acids) for use as ingredients in breads and other foods can mask the 'fishy' taste and improve shelf-life. In addition, nanotechnology has a role in development of 'intelligent' food packaging that will provide a greater degree of traceability of products. For example, nanostructured metal films and coatings can strengthen bottles and other plastic wrapping material, and incorporation of nanosensors into food packaging material will allow for the detection of contaminants such as harmful bacteria in foods and their surrounding environment. Figure 1 provides an overview of the likely fields of application in food production.

Nano-based foods do not appear to be currently available on the Irish market, although some products are on sale in e.g. the USA and Japan, and these and others may be traded on the internet and hence be available to Irish consumers. However, the European Food Safety Authority (EFSA) is assessing a number of potential applications for food supplements, additives and food packaging that are based on nanotechnology.

Nanoparticles are not new. Many foods already contain naturally occurring nanoparticles, for example, the proteins, carbohydrates and fats which are normal components of the human diet are composed of molecules with sizes extending down to the nanoscale. Applications of nanotechnology involving natural food ingredients are likely to have relatively few implications for food safety, since these are processed normally by the body and broken down. However, very small forms of these natural food ingredients may

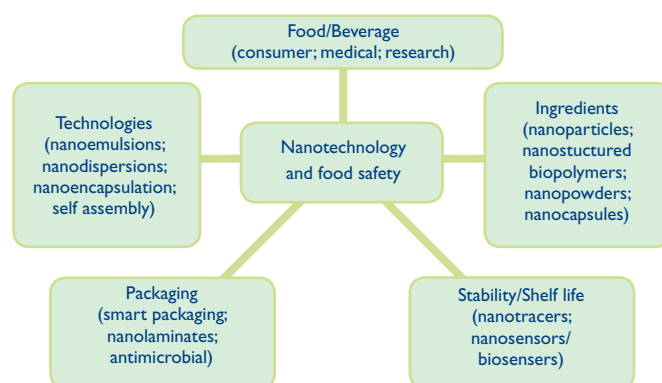


Figure 1: Applications of nanotechnology in food

behave differently to their larger counterparts, and the increased availability of essential ingredients such as vitamins and minerals in the body, achieved through nanotechnology, will have to be carefully monitored. Exposure (via food) to nanoparticulate materials such as inorganic particles (e.g. titanium dioxide) and polymers, that are normally inert and/or cannot readily enter the body, may be of more concern, since these particles may be able to breach normally impenetrable cell barriers and to access vulnerable organs such as the brain, possibly resulting in damage to health. However it is unlikely that these nanoparticles will find applications in food.

controls

In parallel with the views of other expert bodies, the FSAI report concludes 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. The use of nanotechnology in food and feed production is relatively new, and for this reason is not specifically covered by any current EU food or feed legislation. However, nanotechnology, as potentially applied in food production, is considered to fall within the scope of general food law, while specific uses are being considered for inclusion in pending EU legislation on food improvement agents (the FIA proposals) and novel foods.

In its report, the FSAI makes a number of recommendations, as outlined opposite, to ensure that the benefits of this new technology can be enjoyed by Irish consumers, without concern for their health. Given the current state of knowledge about the risks and benefits of nanotechnology, each application of nanotechnology within food and food packaging will have to be assessed on a case by case basis until a standardised approach is developed within the EU for the assessment of the possible risks of nanoparticles.

efsa public consultation

The European Food Safety Authority (EFSA) has recently launched a public consultation on its draft scientific opinion on the potential risks arising from nanoscience and nanotechnologies on food and feed safety and the environment. The draft opinion focuses on engineered nano materials (ENM) that could be deliberately introduced into the food chain.

Comments on the draft opinion should be submitted by 01 December 2008, via the EFSA website:
<http://tinyurl.com/65ul7g>

Key recommendations of the FSAI report:

- Food business operators should conduct risk assessments on all foods involving introduction of new nanoparticles into foods and packaging or manipulation of the size distribution of natural food molecules in food matrices, in order to meet their legal obligations to produce safe food.
- Legal provisions should be considered at EU level to ensure that food and feed should be re-evaluated in terms of safety whenever the properties are changed/re-engineered to the nanoscale.
- The FSAI should promote the establishment of a publicly-available inventory of nanotechnology-based food products and food contact materials, both at European Community level and specifically available on the Irish market.
- Urgent consideration should be given to whether additional controls are required on the disposal and/or recycling of nanoparticle-containing food contact and other materials.
- Food surveillance programmes should include investigation of the potential for nanoparticles, particularly inorganic molecules such as titanium dioxide and clay particles used in packaging, to migrate into foods and also to be recycled in the environment and enter the food chain indirectly.
- Food or food packaging in contact with food and incorporating nanoparticles should be labelled.
- Appropriately funded research should urgently be undertaken to increase the reliability of the assessment of possible risks of nanotechnology in food, including issues such as the fate and behaviour of nanoparticles within the human body and animals; their potential toxicity; methods for the safe and effective disposal of used or waste nanoparticles; the stability/lability of nanoparticles in various foods and their potential interactions with other food components.

what is a nanoparticle?

A nanoparticle is a very small particle of matter, generally below 100 nanometres (nm) in diameter (for a round particle) or in one dimension (for an elongated particle such as a fibre or tubular structure).

what is a nanometre?

A nanometre is one thousand millionth of a metre (10^{-9} of a metre). To put this in perspective, a human hair is approximately 100,000 nanometres wide, so a nanometre is 1/100,000 of its width. A typical cell in the human body is of the order of 10 microns in diameter (10,000 nanometres) and could contain thousands of nanoparticles, if they were able to enter the cell.

what is a nanomaterial?

A nanomaterial is a material containing nanoparticles, engineered to create new products with altered properties, that can be of use in industry including the food and feed industry.

The report is available on our website at <http://tinyurl.com/3tnmbt>

hse environmental health service moves to population health

On 1 July last, the Environmental Health Service was officially transferred from the Primary Community and Continuing Care Directorate of the Health Service Executive (HSE) to the Population Health Directorate. This transfer was the key recommendation from an in-depth review of the HSE Environmental Health Service, completed in October 2006. The review was the first under the unified HSE structure and was undertaken successfully in a tripartite partnership model of HSE management, union and professional body.

In order to facilitate the transfer, a new organisational structure was put in place with the appointment of four Area Chief Environmental Health Officers (EHOs). These appointments were critical to ensure optimum operational delivery of the Environmental Health Service and will lead to a more integrated, efficient and effective service. The new appointees are Mr Dave Molloy, Dublin North East, Ms Mary Keane, HSE South, Ms Ann Marie Part, Dublin Mid-Leinster and Mr Maurice Mulcahy, HSE West. These four Area Chief EHOs report to the Assistant National Director for Environmental Health, Mr Martin Devine.

Pictured here (l-r) are the newly appointed Area Chief EHOs: Mr Dave Molloy, Area Chief EHO for Dublin North East; Ms Mary Keane, Area Chief EHO for HSE South; Ms Ann Marie Part, Area Chief EHO for Dublin Mid-Leinster and Mr Maurice Mulcahy, Area Chief EHO for the West.

In line with the HSE principle of equity, a first priority of the Area Chief EHOs will be to bring equity to the Environmental Health Service on an area basis as well as stream-lining the decision making process. In addition to their operational remits locally, the Area Chief EHOs will also have individual lead national responsibility for a number of different issues including risk management, research, communications and the Environmental Enforcement Network.

The FSAI would like to congratulate the new Area Chief EHOs on their appointments and wish them every success in their future endeavours.





new legislation on nitrites and nitrates in meat products

The provisions of Commission Directive 2006/52/EC which amend the miscellaneous additives Directive 95/2/EC and mainly concern provisions for the use of nitrates and nitrites in meat products came into force on 15 August 2008. The Directive has been transposed into Irish legislation by S.I. No. 40 of 2008.

The intention of this legislation is to ensure the functioning of the internal market, a high level of protection of human health and the protection of consumers' interests. The Directive seeks to balance the risk of the formation of potentially carcinogenic nitrosamines through the presence of nitrites in meat products, with the protective effects of nitrites against the growth of *Clostridium botulinum*, the bacterium responsible for life threatening botulism. Therefore, with regard to the use of nitrates and nitrites in meat products it aims to strike a balance in line with the scientific advice received from the European Food Safety Authority (EFSA) and the Scientific Committee for Food (SCF).

Directive 95/2/EC, as it was originally adopted, laid down maximum residual levels for nitrates and nitrites in various meat products. By contrast, Directive 2006/52/EC introduces the principle recommended in the EFSA opinion of 2003, that it is the added amounts rather than the residual amounts of these additives that contribute to the inhibitory activity against *C. botulinum*. Therefore in Directive 2006/52/EC a maximum ingoing amount for potassium and sodium nitrite (E249 and E250) of 150mg/kg has been established for meat products in general and 100mg/kg as an ingoing amount for sterilised meat products. More specific provisions are, however, provided for some traditional meat products where it was not possible to control ingoing amounts because of their traditional manufacturing process. These products are adequately specified and identified in the Directive. During the negotiations of the legislation

Ireland sought and received derogations for two traditionally produced products. These were the "Wiltshire cured bacon and ham" and "dry cured bacon and ham". These products are unique to Ireland and the UK where they serve well established traditional consumer markets. In both of these cases, maximum residual levels apply and the levels are the same as those that were previously permitted in Directive 95/2/EC. Through consultation with the Irish meat industry it has been revealed that these two products will only represent about 2% of the Irish market therefore all other products will fall under the general meat products category where the maximum amount of nitrite permitted is 150mg/kg as an ingoing amount. Other products such as cured bacon have also seen a reduction in the permitted amount of nitrite unless they are cured via an immersion brine and as a result may fall under one of the specific derogated products listed.

In the case of potassium nitrate (E251) and sodium nitrate (E252) a general maximum ingoing amount of 150mg/kg has also been established for non-heat treated meat products. Heat treated meat products are no longer permitted to contain nitrates as any heat treatment would destroy the bacteria present. This restriction was based on the EFSA opinion which indicated that nitrates *per se* have no direct activity against *C. botulinum*, however, in some traditional products (specified derogated products), nitrates may be necessary as they are converted to nitrites due to the nature of the natural microbial flora present and the duration of curing.

Directive 2006/52/EC also authorises seven new additives: erythritol, soybean hemicellulose, ethyl cellulose, hexylresorcinol, tertiary butyl hydroquinone pullulan and starch aluminium octenyl succination. The authorisations of several other additives have also been extended to allow them a wider range of use in foods.

fsai attend ploughing championships

The National Ploughing Championships was held on September 23-25 in Farmley, Cuffesgrange, Co. Kilkenny. The FSAI had an information stand at the event, ideally located on the main row and beside the Irish Farmers' Association stand and the National Ploughing Association headquarters. The event was extremely well attended with over 150,000 visitors over the three days. The FSAI received a good stream of visitors and the majority of the queries answered by FSAI staff were on chicken imports, business start-up and requirements for small processing plants. Other queries were from secondary school teachers, students and artisan producers. It was a very successful event for the FSAI as it provided an ideal opportunity to meet with food business operators, offer advice and answer any questions they might have.

Visitors to the FSAI stand at the National Ploughing Championships in Kilkenny.



salt and health: an update on the salt reduction programme

Consumers as well as food producers have a role in achieving a balance between salt intake and convenience living if the national salt intake target is to be achieved in the near future. In its fourth annual report on salt commitment, the FSAI acknowledged the significant achievement made by the food industry in Ireland since the inception of the voluntary salt reduction programme in 2004; 72 companies and organisations have signed up to the programme. Consumers can help by taking the difficult step of reducing the quantity of salt added to their cooking or at the table in addition to choosing processed foods with lower salt levels.

Consumers hold the key to their own health by adopting an informed approach to lowering salt intake. The consumer, equipped with purchasing power and choice, can affect the actions of the food industry by purchasing lower salt products and as a result, market forces will ensure that the food industry continues to reduce the amount of salt used in its products. For four years, the FSAI has been working with the food industry to reduce the salt intake from foods that are processed. This is estimated to have resulted in a 7% reduction in salt intake from processed food. However, there is a concern that two years will not be enough to achieve the 2010 target of 6g salt per day.

There is very strong evidence that excessive salt intake is a major factor in the number of deaths from cardiovascular disease and stroke caused by high blood pressure each year. In 2006 about 35% of all deaths in Ireland were from circulatory disease including cardiovascular disease. Excessive levels of salt are considered a contributory factor to high blood pressure which, in turn contributes to cardiovascular disease. One teaspoon less of salt in the daily diet could have a positive influence on public health. Consumers' positive attitude towards salt reduction could be a force to be reckoned with, and is key to, achieving the target intake.

The food industry is to be commended for supporting the salt reduction initiative. Other Government bodies are also urged to embark on a renewed effective salt awareness campaign that will enlighten and shape public perception of the role of salt in health. Consumers should be empowered to make choices that will drive salt reduction in the food industry.

Among the 72 companies and organisations that have signed up to the salt reduction programme, 62 filed a progress update to the end of August 2008; these included the major supermarket chains. Other participants in the programme include bakers, delicatessen suppliers, caterers and catering suppliers.

highlights

The key highlights in the FSAI's fourth Annual Salt Commitment Progress Report are as follows:

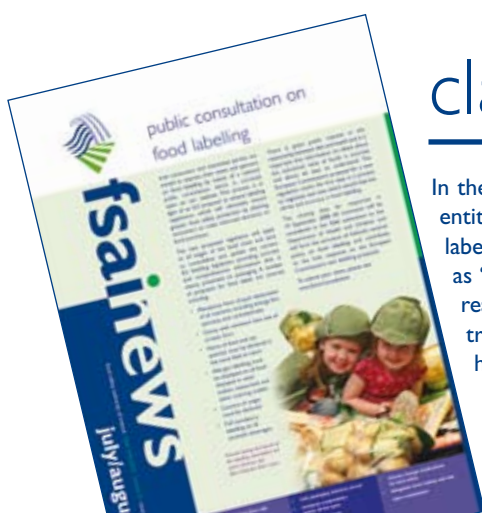
- In 2008, both white and brown pan bread has 10% less salt than it did four years ago. Approximately 27% of our salt intake comes from bread products.
- Major progress has been made on meat products such as sausages and bacon, in response to the FSAI's call to focus on this category in last year's report. It is known that processed food contributes between 18-19% of salt intake.
- All major retailers and symbol groups have reported that salt is being removed from their own brand products and they are placing demands on suppliers to reduce salt, thus driving change in the food manufacturing sector.
- The catering trade and its representative bodies continue to promote salt reduction approaches in cooking. The supply of low salt products by the catering supply trade continues to be essential to the success of these initiatives.
- Representing manufacturers, the Irish Dairy Industries Association joined the programme and undertook to reduce salt in spreads and butter by 10% and 5% respectively before 2010.
- The Irish Hotels Federation launched a national 'food for kids' initiative in July 2008 to which 250 hotels have already committed to adding no salt at preparation, cooking or serving stages to children's food.
- Major high street restaurant chains have reported removal of salt from products.

The food industry will continue to cut salt if consumers actively purchase lower salt products. Nutrition labelling and Guideline Daily Amount (GDA) labelling make it easier for consumers to see which products are high in salt and avoid them. Reduction of salt use in cooking and at the table is also vital. It would be counter productive for people to add more salt to food in the home to compensate for the salt removed by manufacturers.

A European Commission sponsored salt reduction programme was agreed in 2008 and will run to 2012. The Department of Health and Children has signed up to the initiative which is looking for a 16% reduction in salt intake by 2012. Ireland is almost half way there already but we still have a long way to go.

clarification

In the July/August issue of *fsainews*, there was a lack of clarity concerning the article on the front page entitled 'Public Consultation on Food Labelling'. The article highlighted a number of proposals for food labels, to be included in the new EU labelling legislation. One of the proposals was listed in the article as 'country of origin must be declared'. This sentence, however, was incomplete and it should have read: 'country of origin must be declared if its absence is likely to mislead the consumer as to the true origin or provenance of the foodstuff'. We apologise for any confusion or inconvenience it may have caused.



very low calorie diets

introduction

Very low calorie diets (VLCDs) are complete meal replacement diets for weight reduction. They provide between 450 and 800kcal per day resulting in an average weight loss of between 1.5kg and 2.5kg per week. Very low calorie diets should only be used by people who have failed to lose weight using less restrictive diets involving the adaptation of normal food intake.

Weight loss in obese individuals will improve risk factors such as high blood pressure, raised blood sugar or cholesterol. It has been shown the weight loss achieved on VLCDs can benefit obese individuals who have these complications. However medical supervision is strongly advised because of the adverse effects that can accompany rapid weight loss. Temporary side effects of VLCDs include hair loss, fatigue, constipation, oedema and changes in the menstrual cycle. However more serious adverse effects have included the development of cardiac arrhythmias (irregular heart beat) and gallstones and the exacerbation of gout and osteoporosis. There are greater risks associated with rapid weight loss among people who are not obese. This is because fatness levels (in obese patients) help to preserve loss of lean muscle tissue during the severe calorie restriction imposed by VLCDs.

In addition, VLCDs are not recommended for elderly people as they are more vulnerable to adverse health effects that may accompany rapid weight loss. They are also not suitable for pregnant or breastfeeding women or children and adolescents as this type of diet interferes with normal growth and development.

Several studies have shown significant prejudice exists against overweight and obesity. Because of this stigma, people can be tempted to take desperate measures to lose weight and this has been demonstrated even among those who are not overweight. There is concern that the recent increase in overweight and obesity among Irish adults may lead to an inappropriate use of VLCDs in Ireland leading to adverse health consequences associated with rapid weight loss.

regulation

European Commission Directive 96/8/EC regulates foods intended for use in energy-restricted diets for weight reduction with an energy content of 800-1,200kcal. Although the need for specific legislation relating to VLCDs is recognised, these rules have yet to be developed. The lack of such legislation results in uncertainty about the essential composition of VLCD products. In the absence of EU regulation, the 1996 Codex Alimentarius Standard for Formula Foods for Use in Very Low Energy Diets for Weight Reduction can be used to assess VLCDs. A Codex Standard has no legal basis in Ireland, however, it would be best operational practice for foods moving in international trade.

assessment of composition of VLCDs in Ireland

The FSAI recently carried out an assessment of the composition of VLCDs on the Irish market. Four daily regimens were selected from three VLCD systems whose details were notified to the FSAI. These four regimens, constructed using a variety of products (shakes, soups, bars) were compared with the appropriate compositional standards outlined by Codex.

When compared with the Codex Standard, the four VLCD regimens assessed did not all reach the minimum level set for energy (2 regimens), protein (2 regimens), carbohydrates (3 regimens) (Table 1), copper (1 regimen). The Codex Standard does not give recommendations for fibre, however European Directive 96/8/EC for low calorie diets sets the fibre requirement at 10-30g per day. None of the regimens assessed met this recommendation. While one brand provides a fibre supplemented drink and another allows for inclusion of fruit and vegetables, these sources of fibre are optional.

Table 1: Results – Composition of three VLCD regimens versus Codex Standard

	Codex	Regimen A	Regimen B Female	Regimen B Male	Regimen C
Energy (Kcal)	450-800	562	425	559	433
Protein (g)	50	50	43	57	45
Carbohydrate (g)	50	47	45	59	49
Other References					
Fat (g)*	7	20	7	9	6
Fibre (g)**	10-30	9	5	7	5

* SCOOP, 2002. ** Commission Directive 96/8/EC

conclusions

1. Legislation specifying the essential composition of VLCDs is required at European level.
2. VLCDs should only be used under medical supervision.
3. Given the risks of adverse effects, VLCDs should only be used by people who have failed to lose weight using less restrictive diets. In the long term, they are reportedly not any more effective in weight loss treatment than standard low calorie diets (>800 calories).

For more information on VLCDs see our website at www.fsai.ie/faq.asp



compendium of food law



The FSAI has responsibility for the enforcement of food safety legislation in Ireland. This work is mainly carried out on behalf of the FSAI by staff in the local authorities, Health Service Executive, Department of Agriculture, Fisheries and Food and the National Consumer Agency. Food legislation places obligations not just on food business operators, but also on the enforcement authorities who must carry out official controls and take action where non compliance is detected and more specifically when consumers are put at risk. A key focus in enforcing food legislation is to impart a greater understanding to all food businesses of their primary and legal responsibility for producing safe food.

The Food Safety Authority of Ireland Act, 1998 (S.I. No. 29 of 1998), provides the FSAI with the legal right to collect all food legislation and to publish it. In recognition of that right, the 'Compendium of Food Law in Ireland' was prepared. The principal purpose of the publication is to act as a reference and guide to the various acts, regulations and orders made at national level as well those directives and regulations made at EU level.

The third edition of the 'Compendium of Food Law in Ireland' is due to be published in November, bringing together all food legislation up to 15 May 2008. Given that food legislation continues to be adapted and amended, this legislation is also published on our website at www.fsai.ie/legislation, where it is updated regularly.

vitamins and minerals in food fortification

Regulation 1925/2006/EC on the addition of vitamins and minerals and of certain other substances to foods came into force in July 2007. The legislation seeks to harmonise food fortification across Member States and sets out specific rules for the addition of vitamins, minerals and certain other foodstuffs to food. It aims to ensure the effective functioning of the internal market whilst providing a high level of consumer protection.

Annex I of Regulation 1925/2006/EC lists the vitamins and minerals which may be added to foods. These may only be added in the formats listed in Annex II. However, Member States may provide derogations for vitamins and minerals and their forms not included in the legislation until 19 January 2014, as long as the following conditions are fulfilled:

- (a) the substance in question was used for addition to foods marketed in the Community prior to 19 January 2007;
- (b) the European Food Safety Authority has not given an unfavourable opinion in respect of the use of the substance, or its use in that form, in the manufacture of food on the basis of a dossier supporting use of the substance that has to be submitted to the Commission by the Member State by 19 January 2010.

In view of this the FSAI would like to advise the food industry that dossiers supporting the use of a vitamin or mineral substance in food can be submitted to the FSAI for derogation (provided the above conditions and the general principles of the legislation are fulfilled). These dossiers will be forwarded to the European Food Safety Authority for evaluation. The FSAI will accept dossiers until 1 January 2009.

The European Commission has published administrative guidance on submissions for safety evaluation of substances added for specific nutritional purposes in the manufacture of foods, which provides detailed information on the procedure that should be followed for the submission of requests for substances to be considered for inclusion in the permitted list. This document can be accessed on the europa website: <http://tinyurl.ie/174>

Further information is available from our website at www.fsai.ie

seminar on land-spreading

Pictured at a seminar on 16 October to highlight the issues surrounding the land-spreading of organic materials on agricultural land used for food production are (l-r) Mr David Smith, Environmental Protection Agency and Dr Karl McDonald, FSAI. Both Mr Smith and Dr McDonald were members of the Scientific Committee Working Group that produced the report 'Food Safety Implications of Land-spreading Agricultural, Municipal and Industrial Organic Materials on Agricultural Land used for Food Production in Ireland'. (See front page).





substantiation of health and nutrition claims: an uphill journey for the food industry

recent regulations for authorisation of claims

The broad aim of European legislation on the labelling, presentation and advertising of foodstuffs is that it must be clear, unambiguous and must not mislead the consumer to a material degree. For a number of years a grey area has existed around claims that could be made on foods regarding nutritional and health attributing properties of food and food ingredients. European regulations introduced in mid-2007 on nutrition and health claims made on foods introduced harmonised rules for the protection of both consumers' interests and consumers' health (See: <http://tinyurl.com/5knuky>). The aim was to ensure that any claim made on a food label in the EU is clear, accurate and substantiated, enabling consumers to make informed and meaningful choices. The regulations cover three broad categories of claims that include nutrition, general health and the reduction of disease risk and children's development and health.

In late 2007, the European Commission issued guidance for Member States on the implementation of the regulations and in May 2008 this was followed by a regulation detailing rules on applications for authorisation of health claims (<http://tinyurl.com/65facj>). Essentially, all claims have to be substantiated with scientific evidence which will be evaluated by the European Food Safety Authority (EFSA). The process is that food businesses submit claims for authorisation through their national competent authorities for onward transmission to EFSA. In Ireland, the FSAI is the national competent authority. To date, 320 claims have been submitted from Ireland via the FSAI. In all, about 40,000 claims have been received by the European Commission from Member States and these have been consolidated into about 2,870 claims that have been passed to EFSA for evaluation.

efsa evaluations

The work on scientific evaluation of claims falls to the EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA) which is chaired by Professor Albert Flynn of University College Cork. Each dossier is scrutinised by this Panel and the scientific evidence submitted is evaluated in line with guidelines laid down in the regulations.

The most recent deliberations from this Panel have been on the scientific substantiation of health claims related to children's development. These related intellectual and mental development in children to consumption of omega-3-fatty acids. The outcome of the evaluation was the rejection of the claims on the grounds that cause and effect relationship between the consumption of the food component and the claim for children's development has not been established. (The full EFSA opinion is available at: <http://tinyurl.com/2ee32a>).

omega-3-fatty acids

Fish, particularly fatty fish are the principal source of the long-chain polyunsaturated omega-3-fatty acids, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), in the diet. EPA and DHA have been associated with a number of health benefits ranging from improved foetal and infant development to cardiovascular risk reduction in adults. Both observational and experimental evidence have associated higher seafood intakes with an increased duration of gestation and improved cognitive development. Similar evidence points to some of the lowest incidence in cardiovascular disease in populations consuming diets high in seafood and a reduction in diseases associated with inflammation.

Six claims on the beneficial role of omega-3-fatty acids and children's development were submitted to EFSA. These related to calming or mood improvements, particularly in ADHD-related disorders in children aged one to twelve years and older; supporting vision; mental development; improved concentration; thinking capacity; and learning ability. The NDA panel concluded that there is no scientific justification for any of the proposed claims and that cause and effect relationship has not been established between the consumption of DHA and EPA and the proposed claims.

claims related to children's development receiving a positive opinion

Two claims relating to calcium and bone development in children received positive opinions from the NDA panel. Calcium is an important structural component of bone. It is well recognised that adequate calcium intake throughout childhood and adolescence is needed to achieve maximum bone mass in young adulthood which is an important determinant of bone mineral status in later life. The growth and development of bone is related to the quantity of calcium consumed, and recommended intakes of calcium to meet requirements for growth and development of bone in children and adolescents have been established by various authorities.

The Panel concluded that, on the basis of the data provided, a cause and effect relationship has been established between the intake of calcium and normal growth and development of bone in children.

implications for nutrition and health claims

The above examples provide a snapshot of the work on claims, on a range of food products, being undertaken by the EFSA NDA Panel. While we are at a very early stage of the evaluation process, it is evident that only claims that are fully justified on scientific grounds will receive a positive opinion. EFSA is setting a high standard and there is no doubt some claims will fall by the wayside. The most important issue when evaluating claims is the question of cause and effect and if the food under scrutiny really has the claimed effect on humans. The evaluations and opinions published to date by EFSA will serve as a template for the industry when submitting future dossiers.



sandwiches and human listeriosis in care settings – a cause for concern?

In recent years we have seen a rapid expansion in the commercial supply of ready-to-eat sandwiches with major caterers in Ireland supplying up to half a million sandwiches and wraps on a weekly basis. For the general public sandwiches are one of the safest foods on the market. Many people will consume a wide variety of sandwiches daily whether in school lunch boxes or at a desk in a busy office.

However, over the past few months we have witnessed a number of outbreaks of listeriosis in different parts of the world that have been associated with eating sandwiches. For most people, the risk posed by listeria is very low. Healthy people who are exposed to listeria are rarely affected by the bacteria but for pregnant women, the elderly and the immuno-compromised, the risk is great.

recent outbreaks of listeriosis

In Canada, a multi-state outbreak of listeriosis occurred between June and September 2008, involving about 60 cases and 20 deaths (See: <http://tinyurl.com/646tr6>). This was linked to meat products from a major manufacturer which were used as sandwich fillers. The common outbreak strain was identified through genetic fingerprinting and a nation-wide product recall was undertaken from retail stores, food service establishments, hospitals and nursing homes.

In June 2008 an outbreak of listeriosis was reported in a large hospital in Belfast where three of the five associated cases died. The cases occurred in elderly patients who were ill with other conditions. During the investigation of this outbreak, sandwiches were identified as a likely source of the illness.

Five cases of listeriosis were reported in Manchester in April 2008, three of whom were elderly in-patients from a single hospital. These cases were linked to sandwiches and investigations showed the outbreak strain of *Listeria monocytogenes* in equipment used to slice sandwich ingredients in the processing environment of the sandwich supplier.

In 2007, several thousand sandwiches were withdrawn from hospitals in London and southeast England following the isolation of *L. monocytogenes* at high levels from sandwiches.

listeriosis in ireland

Listeriosis is a rare but life-threatening foodborne disease caused by *Listeria monocytogenes*. In humans severe illness mainly occurs in the unborn child, infants, the elderly and those with compromised immune systems. Symptoms vary, ranging from mild flu-like symptoms and diarrhoea to life threatening infections characterised by septicaemia and meningoencephalitis. In pregnant women the infection can spread to the foetus, which may either be born severely ill or die in the uterus and result in abortion. Illness is often severe and mortality is high. Human infections are rare yet important given the high mortality rate associated with them.

Data from the European Food Safety Authority shows that the incidence rate for listeriosis is around 0.3/100,000 in the EU with a similar incidence rate in Ireland.

food and listeria

L. monocytogenes is found in foodstuffs such as pâté, soft cheeses, pre-packed sandwiches, cooked sliced meats and smoked seafoods. Cooking kills *Listeria*, but the bacteria are known to multiply at temperatures as low as 2 to 4°C, which makes its occurrence in

ready-to-eat (RTE) foods with a relatively long shelf-life particularly of concern. Sandwiches have the potential for contamination with *L. monocytogenes*, either because they include several components and are subject to extensive handling during preparation of the filling and sandwich assembly, or as a result of cross-contamination from the environment.

Commission Regulation (EC) No. 2073/2005 on microbiological criteria for foodstuffs lays down food safety criteria for *L. monocytogenes* in RTE foods. According to these provisions *L. monocytogenes* must not be present at levels above 100cfu/g throughout the shelf life of the product. To ensure this criterion is met under reasonably foreseeable conditions of distribution, storage and use, manufacturers of RTE foods are obliged to conduct shelf life studies as necessary. In particular this applies to 'RTE foods able to support the growth of *L. monocytogenes*'. If a food business operator (FBO) is not able to demonstrate to the satisfaction of the competent authority that a 'RTE food able to support the growth of *L. monocytogenes*' will not exceed the limit of 100cfu/g throughout its shelf life, a more stringent limit of 'absence in 25g' must be applied before the food has left the immediate control of the FBO who has produced it.

advice for health care settings

Sandwiches served in hospitals can be contaminated with low levels of *L. monocytogenes* on a relatively frequent basis. While such products comply with European regulations, it is extremely important that vulnerable groups do not consume these products.

Hospitals and other health care settings should not serve high risk foods to their patients and should inform them of the risks. This includes sandwiches and salads with high risk components like deli meat, smoked salmon, soft cheese etc. If such products are available in canteens or shops in hospitals then patients should receive information to ensure that they do not consume these products whether purchasing them or having them purchased for them.

All foods consumed by hospital patients should be free from potential pathogens, including *L. monocytogenes*, and those responsible for procuring sandwiches for hospitals should ensure the safety of vulnerable patients in their care.

Written food safety procedures for hospitals should ensure procedures for ward kitchens. Ward fridges should be monitored regularly to ensure temperatures remain below 5°C. Temperature control should be maintained from production until food is served and sandwiches should be consumed as close as possible to their production date. Foods which carry a greater risk for *Listeria*, such as pâté, cold sliced meat, soft mould-ripened cheeses and smoked seafoods, should not be served to vulnerable patients.



legislation update

european legislation

new eu rules on pesticide residues for food

Since 1 September 2008, a new legislative framework (Regulation (EC) No. 396/2005 of the European Parliament and of the Council) on pesticide residues is applicable. The new rules set fully harmonised Maximum Residue Levels (MRLs) of pesticides and cover all agricultural products intended for food or animal feed. MRLs for 315 fresh products are listed, but these MRLs also apply to the same products after processing, adjusted to take account of dilution or concentration during the process

A newly developed database can be consulted on the Europa website to search for the MRLs applicable to each pesticide and to each crop. It can be accessed at: http://ec.europa.eu/sanco_pesticides/public/index.cfm

organic products

Commission Regulation (EC) No. 889/2008 of 5 September 2008 laying down detailed rules for the implementation of Council Regulation (EC) No. 834/2007 on organic production and labelling of organic products with regard to organic production, labelling and control has been published in the EU Official Journal. It will apply from 1 January 2009. Included in the Regulation are rules on the production, processing, packaging, transport and storage of organic products as well as specific labelling rules.

eu proposals

fruit and vegetable marketing standards

As part of the European Commission's ongoing efforts to streamline and simplify rules and cut red tape and following a declaration made last year during the reform of the Common Market Organisation for fruit and vegetables, a proposal to repeal specific marketing standards for 26 types of fruit and vegetables is under discussion. The proposal would allow Member States to exempt fruit and vegetables from specific marketing standards if they are sold with a label "products intended for processing" or equivalent wording. Such products could be either misshapen or under-sized and could, for example, be used by consumers for cooking or salads etc. The proposals would maintain specific marketing standards for ten products: apples, citrus fruit, kiwi fruit, lettuces, peaches and nectarines, pears, strawberries, sweet peppers, table grapes, tomatoes. Member States could exempt

even these from the standards if they were sold in the shops with an appropriate label. The new rules would abolish specific standards for 26 products: apricots, artichokes, asparagus, aubergines, avocados, beans, brussels sprouts, carrots, cauliflowers, cherries, courgettes, cucumbers, cultivated mushrooms, garlic, hazelnuts in shell, headed cabbage, leeks, melons, onions, peas, plums, ribbed celery, spinach, walnuts in shell, water melons, witloof/chicory, while setting new general minimum standards for the marketing of fruit and vegetables. It is proposed that the changes will be implemented from 1 July 2009.

compulsory origin labelling for virgin and extra virgin olive oil

A draft European Commission proposal currently under discussion proposes the introduction of compulsory origin labelling for virgin and extra virgin olive oil. Rules introduced in 2002 established optional labelling for these oils, but this has proved insufficient to avoid consumers being misled about the true characteristics and origin of certain products. Oils coming from just one country will carry the name of the country of origin. Blends will be labelled either "blend of Community olive oils", "blend of non-Community olive oils", "blend of Community and non-Community olive oils" or, equivalent indications. Certain terms describing the organoleptic characteristics referring to the taste and/or smell of virgin and extra virgin olives have recently been defined by the International Olive Council and it is intended that these terms may also be used on labels. A vote on a draft proposal is expected around the end of 2008. If adopted, new rules will apply from 1 July 2009.

toys in food

EU Member States are currently discussing a draft proposal for a Directive on the safety of toys. Under the current rules there are no specific provisions for toys in food. The proposal as currently drafted prohibits toys firmly attached to a food product at the moment of consumption, in such a way that the food product needs to be consumed in order to get direct access to the toy. It also requires that toys contained within food or co-mingled with a food must have their own packaging. This packaging, in its supplied condition, must be of such dimensions as to prevent it being swallowed and/or inhaled.



The following Regulations have been introduced over the last few months in Ireland:

S.I. No. 316 of 2008 European Communities (Cooperation Between National Authorities Responsible for the Enforcement of Consumer Protection Laws) (Amendment) Regulations, 2008

S.I. No. 318 of 2008 Butter Exporting (Examination) (Revocation) Order, 2008

S.I. No. 327 of 2008 European Communities (Avian Influenza) (Control of Imports from Croatia and Switzerland) Regulations, 2008

S.I. No. 328 of 2008 European Communities (Protection Measures In Relation To Highly Pathogenic Avian Influenza on the Subtype H5N1 Poultry) Regulations, 2008

S.I. No. 362 of 2008 European Communities (Safeguard Decisions Relating to Avian Influenza, Newcastle Disease, Foot and Mouth Disease, Classical Swine Fever, African Swine Fever, Swine Vesicular Disease and Bluetongue) (Miscellaneous Revocations) Regulations, 2008

S.I. No. 368 of 2008 European Communities (Pesticide Residues) (Amendment) (No. 2) Regulations, 2008

S.I. No. 369 of 2008 European Communities (Additives, Colours and Sweeteners in Foodstuffs) (Amendment) (No. 3) Regulations, 2008



red 2g in sausages and burgers

Red 2G (E128) is the common name for the mono-azo colour disodium 8-acetamido-1-hydroxy-2-phenylazo-naphthalene-3,6-disulphonate. Up to July 2007, the use of Red 2G had been authorised under European Parliament and Council Directive 94/36/EC on colours for use in foodstuffs. In accordance with annex IV of Directive 94/36/EC, the additive was permitted for use in breakfast sausages with a minimum cereal content of 6% and burger meat with a minimum vegetable and/or cereal content of 4%. In both foods a maximum level of 20 mg/kg was permitted.

The safety of all additives is kept under continuous observation and is re-evaluated whenever necessary in light of changing conditions of use or whenever new scientific information comes to light. As the original safety assessments for a number of the additives dates back many years, the European Commission considered that there was a need to systematically review all of the authorised additives and it was within this context that Red 2G was re-evaluated by the European Food Safety Authority (EFSA).

On 5 July 2007, EFSA published its opinion on the re-evaluation of Red 2G and concluded that it would be prudent to regard it as being a safety concern. This conclusion was based on the fact that Red 2G can be extensively metabolised by humans to aniline, which is considered to be carcinogenic and for which a genotoxic mechanism cannot be excluded. As a result of this, EFSA withdrew the Acceptable Daily Intake (ADI) for Red 2G. This action prompted the European Commission to invoke emergency measures in order to suspend the use of Red 2G under Commission Regulation 884/2007/EC of 26 July 2007. The FSAI informed the industry about the outcome of the EFSA opinion and instructed manufacturers to stop using Red 2G in their products and to change their product labels accordingly.

Following the publication of the emergency measures, the FSAI, in conjunction with the Cork Public Analyst's Laboratory Service carried out a surveillance study on Red 2G in sausages and burgers available on the Irish market in order to ascertain the levels of compliance with these new measures. A total of 26 samples were tested in the 2007 survey (18 different types of sausages and 8

different types of burgers) and out of these two burger samples contained detectable levels of Red 2G, albeit at very low levels. The FSAI followed up these non-compliances and found that Red 2G was present in the burgers as a result of using a spice mix in the manufacture. It should be stressed that the levels found were below the limit of quantification for the method used by the laboratory performing the analysis but nonetheless should not have been present. In both cases appropriate follow up action was taken by the butchers and the suppliers of the spice mixes concerned and the FSAI is satisfied that the necessary steps have been taken to ensure legal compliance.

The results of this study show that most manufacturers had quickly taken action to reformulate any products containing Red 2G following the publication by the European Commission of the emergency measures which suspended its use. The FSAI will continue to monitor products for Red 2G and other additives, in order to safeguard the health of consumers in Ireland.

The full report is available on our website at <http://tinyurl.com/4gfej9h>

withdrawal of nylon kitchen utensils

Kitchen utensils are frequently made from black nylon and there have been cases reported where these utensils release contaminants known as primary aromatic amines (PAAs). These substances are known or suspected genotoxic carcinogens, and therefore consumer exposure to them should be eliminated wherever possible or at least minimised. Directive 2002/72/EC on plastic material and articles intended for contact with foodstuffs, as amended, applies to the utensils. The Directive requires migration of PAAs to be non-detectable, with a detection limit of 20µg/kg (10µg/kg from May 2009). The European Commission's annual report on the Rapid Alert System for Food and Feed (RASFF) for 2007 indicates that migration of PAA from nylon kitchen utensils from China was a significant cause of rapid alerts for food contact materials. In Ireland, the Dublin Public Analyst's Laboratory (PAL) within the Health Service Executive tests materials and articles for compliance with the legislation. Nylon utensils were included in the 2008 monitoring programme based on the problems identified in other Member States. Samples were taken by environmental health officers (EHOs) at retail level and tested in the PAL.

The results indicated that four out of 20 samples taken were not compliant with the requirement for PAA migration. Levels up to 8mg/kg were detected. The retailers were directed to halt sales of the non-compliant products and to identify the suppliers. Retailers included supermarkets (Tesco) and hardware stores (Atlantic Homecare, Woodies DIY and independent hardware stores). The suppliers provided information on the manufacturers, who were all located in China. The suppliers agreed to withdraw all products from the same range and confirmed that Ireland had not supplied the products to other countries. The FSAI notified the European Commission of the incident and EHOs checked that the products were no longer being sold by these retailers.

However, taking into consideration that:

- the test results were done under deliberately severe conditions to exaggerate the migration and hence provide a margin of safety;
- it is impossible to calculate a realistic estimate of consumer exposure to PAAs arising from normal domestic use of the non-compliant utensils;

- there was insufficient traceability or labelling information to identify exactly which products were affected

it was concluded that a consumer recall was not merited.

Discussion with the importer of some of the non-compliant utensils indicated that they were accompanied by test certificates indicating compliance with Directive 2002/72/EC. However, it was found that the manufacturer's testing only covered the overall migration requirement of the Directive and not the specific test for PAA migration.

The incident highlighted an unacceptable level of non-compliance with the legislation on migration of harmful substances from these nylon kitchen utensils. Effective action was taken to stop the sale of the products tested and the FSAI, in conjunction with the PAL and EHOs, intends that further official control will take place on similar products. Suppliers are reminded of their obligations to comply with the legislation on these food contact materials, including the relevant specific migration tests.



mailing list

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Dublin 1.

fsai at shop exhibition



Miriam McDonald, Communications Executive, FSAI, offers advice at SHOP.

SHOP exhibition is Ireland's largest retail, food and drink industry event. The exhibition allows businesses in the retail and convenience food sectors to showcase their latest products and trends. It also provides opportunities for those in the industry to develop new business, launch new products, network and gather information relating to the industry.

With over 250 exhibitors and many thousands of visitors, the show provided an excellent opportunity for the FSAI to meet with people working in the Irish food industry. The event was held in the RDS, Dublin from 29 September to 1 October. The FSAI information stand was attended by trained advisors and scientists who work on a daily basis on issues concerning the food industry, and was visited by many interested parties over the three days. Queries were predominately based on starting up a new food business, training, HACCP and labelling. There was particular interest in the Safe Food To Go leaflet and the labelling leaflets in the different languages.

fsai to merge with other state bodies

The recent budget outlined a proposal to amalgamate the FSAI with the Irish Medicines Board and the Office of Tobacco Control. The FSAI welcomes any initiative that can further enhance and protect consumers' health and consumers' interests. We look forward to hearing further details on the merger plan and participating in the process to ensure a swift and seamless amalgamation. A new entity that aligns the FSAI with the Irish Medicines Board and the Office of Tobacco Control would offer significant benefits to consumers, as these State regulatory agencies have a common focus of protecting consumer health.

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