

House of Lords Science and Technology Select Committee

Call for Evidence: Nanotechnologies and Food

Introduction

The Food Additive and Ingredient Association (FAIA) represents the UK suppliers of Food Additives and Ingredients – details of our association are appended to this Submission as an Annex.

We have been monitoring the development of nanotechnology for several years and as an innovative industry we support its use. We believe that, as for all new technologies, there should be a robust safety assessment covering both human health and environmental issues. It is our understanding that the existing regulatory system can be used to ensure this.

The use of nanotechnology in the food additive area is extremely limited at the present time and is mainly in the research phase. Consumer acceptance is essential if it is to develop further and this will only be achieved if there is an open debate between all parties.

State of the science and its current use in the food sector

- **What are the main potential applications and benefits of nanotechnologies and nanomaterials in the food sector, either in products or in the food production process?**

For food additives and ingredients the technology offers benefits in the method of delivery. It will enable improved coatings and encapsulating techniques.

In the area of packaging it can control gases and moisture thus reducing spoilage. This will enable higher quality products to be produced and reduce wastage.

- **What is the current state of the market for, and the use of, food products and food production processes involving nanotechnologies or nanomaterials, either abroad or in the UK?**

We are not aware of any food Ingredient or additive deliberately produced using this technology on the UK market at the present time. There are a small number of ingredients which contain some nano size particles as a result of the standard production method, these have been on sale for many years and we have not considered them here.

We are aware of developments in the specialist supplement area where by the technology can be used to aid absorption and to deliver products without adverse taste effects.

- **What might the ‘next-generation’ of nanotechnologies and nanomaterials look like? How might they be applied in the food sector, and when might they enter the market?**

Like all scientific developments – nanotechnology will evolve over the years . The research is however often company based and when at an early stage subject to confidentiality and that FAIA would not have access to these details

- **What is the current state of research and development in the UK regarding nanotechnologies and nanomaterials which have or may have an application within the food sector? How does it compare to research and development in other countries?**

As in the previous question FAIA would not have access to this type of information

- **What are the barriers to the development of new nano-products or processes in the food sector?**

As stated in the introduction Consumer acceptance and hence use of the technology by the retailers and food manufacturers is essential. In the past beneficial technologies have been lost to industry due to their rejection by the consumer. The consumer needs to understand the technology and appreciate the advantages it can bring to them.

In addition the burdens placed on industry in bringing products to market need to be taken into account. Whilst it has to be a prerequisite of sale that the safety of these products be demonstrated, a lengthy and complex approval system will prevent all but the large manufacturers from entering the market.

Health and safety

- **What is the current state of scientific knowledge about the risks posed to consumers by the use of nanotechnologies and nanomaterials in the food sector? In which areas does our understanding need to be developed?**

In recent months there have been a number of reports published on this issue including those of the SCENIHR (Scientific Committee on Emerging and Newly identified Health Risks) and the IRGC (International Risk Governance Council). These set out the areas of potential uncertainty but do not always provide guidance or offer solutions.

Very recently the European Food Safety Authority (EFSA) has published its opinion, which recognises that the established international approach to risk assessment can be used but that there are many uncertainties which require additional research and may require case by case considerations.

One area which has to be satisfactorily addressed is the Health and Safety aspects for workers handling nanoparticles.

- **Is research funding into the health and safety implications of nanotechnologies and nanomaterials in the food sector sufficient? Are current funding mechanisms fit for purpose?**
- **Can current risk assessment frameworks within the food sector adequately assess the risks of exposure to nanotechnologies and nanomaterials for consumers? If not, what amendments are necessary?**

The aforementioned reports do make some recommendations in this area but further work is required.

- **Are the risks associated with the presence of naturally occurring nanomaterials in food products any different to those relating to manufactured nanomaterials? Should both types of nanomaterials be treated the same for regulatory purposes?**

Where naturally occurring nanoparticles are used in additive preparations they have already been assessed as part of the standard approval procedure. These are not considered by industry to be the products of nanotechnology and should be treated in a different manner

Regulatory framework

- **Is the regulatory framework for nanotechnologies and nanomaterials fit for purpose? How well are imported food products containing nanotechnologies and nanomaterials regulated?**

As new legislation is enacted Nanotechnology is one of the factors considered and the EU regulatory program is extremely comprehensive.

Imported products also have to meet the EU requirements irrespective of their country of origin however we are unable to comment on the enforcement of this legislation with respect to imports.

- **How effective is voluntary self-regulation either in the UK or EU or at an international level? What is the take up by companies working in the food sector?**

The Food Additive and Ingredients business takes its responsibilities in this area extremely seriously. In addition the General Food Law (EU Regulation 178/2002) requires Food Business operators to ensure that all food products placed on the market are safe.

- **Will current regulations be able adequately to control the next generation of nanotechnologies and nanomaterials?**

FAIA is of the opinion that the EU Regulatory framework is able to adapt to encompass new developments. In addition the existing Novel foods and packaging regulations are believed to already cover these products

- **Is there any inter-governmental co-operation on regulations and standards? What lessons can be learned from regulatory systems in other countries?**

We understand that there is an ongoing dialogue between the major players in this area

Public engagement and consumer information

- **What is the current level of public awareness of nanotechnologies, and the issues surrounding the use of nanotechnologies and nanomaterials in the food sector? What is the public perception of the use of such technologies and materials?**

We believe public awareness to be very low, even in non food areas where there are products on the market that confer consumer benefits such as sun screens.

There are a number of initiatives in this area, such as that undertaken by the Responsible Nano Forum but this is an important issue which requires greater emphasis.

- **How effective have the Government, industry and other stakeholders been in engaging and informing the public on these issues? How can the public best be engaged in future?**

FAIA is not aware of any specific Government Initiative in this area. Any public debate has been drive by NGO's. A more comprehensive program is needed but this can only take place when products are available – see comments below.

The Association believes it is essential for Government to take the lead on a proactive public communication programme. The application of new scientific developments to public benefit has on previous occasions (such as Genetic Modification) been misrepresented by, or been the subject of biased reporting in, certain segments of the popular press and broadcast media. We strongly believe that clear messages from Government must be delivered to prevent such a hijacking of the popular press by the anti-science lobby on this occasion.

- **What lessons can be learned from public engagement activities that have taken place during the development of other new technologies?**

The Consumer needs to relate the technology to products which confer a direct benefit to them and until such foodstuffs are available on the market it will be difficult to engage in a productive dialogue.

- **Should consumers be provided with information on the use of nanotechnologies and nanomaterials in food products?**

Consumers should be provided with a information about a product which is clear and factual. It should add to their understanding of the product to be purchased and should not be misleading.

For Food Additives and Ingredients Association (FAIA)

Mrs A Joy Hardinge OBE, BSc FIFST CSci
Chairman

Richard B Ratcliffe BSc, CSci FIFST, Hon FIFST, MCQI
Executive Director.

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