

Institute of Food Science & Technology Response to “Food: an analysis of the issues” by The Strategy Unit of the Cabinet Office

IFST, the UK-based professional qualifying body of food scientists and technologists, welcomes the Discussion Paper as a long-overdue, joined-up government, comprehensive assessment of the whole UK food field. The Discussion Paper also brings together for the first time a vast amount of relevant data, conveniently presented in graphic form.

With regard to the Section 8, Food Safety

1. The basis for development of policy on food safety must be evidence derived from effective reporting of cases and outbreaks of foodborne disease and deaths. This relies on accurate reporting to the Health Protection Agency and the investigations undertaken by doctors, local health authorities, Environmental Health Officers and microbiology laboratories. However, many cases are not reported; not all outbreaks are reported and, in many reported outbreaks, the causative organism is not found. Increased resources are needed to improve this evidence-base.

The original source of the data on *Campylobacter*, *Listeria monocytogenes*, *E. coli* O157 and non-typhoidal salmonellas quoted in this Discussion Paper needs to be given. The figure given in this Discussion Paper for hospitalisations due to *Campylobacter* in 2005 is the same as that given for 2000 in a publication from the Health Protection Agency. It would be surprising if this number were the same in these two years.

2. The Report to the PM needs to give a more complete account of the present disease burden caused by foodborne pathogens, and of emerging problems.

The Discussion Paper lists four of the main foodborne bacterial pathogens. However, in addition to these, *Clostridium perfringens* is an important cause of foodborne illness; outbreaks are liable to occur in institutions as well as in private homes, and they should be investigated and reported. In 2000, the number of cases caused by *C. perfringens* was second only to that reported due to *Campylobacter*; the number of deaths caused by *C. perfringens* was greater than that due to *Campylobacter* and was only exceeded by the number caused by non-typhoidal salmonellas. The difficulty in obtaining reports on cases should not preclude an investigation into the problems caused by this bacterium.

It is becoming recognised that foodborne transmission is an important means of infection with certain viruses, particularly norovirus, and also Hepatitis A and Hepatitis E viruses. Outbreaks of foodborne infection by norovirus are commonly amplified by person-to-person spread. The extent of the problem caused by foodborne viruses and the risk of increase in the future should be included in the Report to the PM.

The extent of the problems caused by foodborne protozoa, such as *Cryptosporidium*, *Cyclospora*, *Giardia* and *Toxoplasma* should form part of the evidence-base in the Report to the PM. Publications from the US and the Netherlands have estimated a very high disease burden caused by *Toxoplasma gondii*.

3. Current trends in populations, in types of food consumed and climate change are liable to result in an increase in the burden of foodborne disease. These effects should be indicated in the Report to the PM.

- **Vulnerable population groups:** There is an increasing proportion of the population who are particularly vulnerable to foodborne disease. This includes the elderly (aged over 65 years) and also people being treated with immunosuppressants, i.e. cancer patients, organ-transplant patients, people suffering chronic diseases. In total, these groups may account for 10-20% of the population. Individuals in these groups are more likely to contract illness and more likely to suffer severe symptoms than the general population.
- **Food consumption patterns:** There is an increase in the consumption of a wide range of ready-to-eat foods including fresh salad vegetables, herbs, and berry fruit, and prepared, cooked, chilled foods with an extended shelf-life at chill temperature. There is a risk that fresh salad vegetables, herbs and berry fruit may be contaminated at source; they are then not cooked and washing has little effect on decontamination. Serious outbreaks of disease have been caused by these foods in the UK, Europe and North America. Imported products are of concern, but home-produced products are also involved. Control of conditions during primary production in the field, as well as during and after harvest, is necessary to ensure microbiological safety. The role of industry assurance schemes and retailer standards for food supply chains should be acknowledged and encouraged.
- **Water supplies:** Pressure on supplies of water for irrigation and consequent use of contaminated water are liable to increase the problems associated with microbiological safety of these foods. As people are encouraged to eat more fruit and vegetables it becomes increasingly important to bring science to bear on identifying contamination sources and finding solutions.
- **RTE product handling:** Other ready-to-eat foods are heat treated (or otherwise processed) and then may be cooled, manipulated (e.g. sliced) and packed e.g. vacuum- or modified atmosphere-packed, sliced meats. These foods are susceptible to contamination between processing and final packaging. There is a risk of contamination particularly with *Listeria monocytogenes*, which can multiply at chill temperatures (<3° – 8°C) and at higher temperatures, and may increase to high numbers during prolonged storage, particularly if chill temperatures are not effectively maintained.
- **Food handlers' skill base:** Large numbers of people employed in food preparation and catering are unskilled, and there is a high turnover rate. There is a need to ensure that staff preparing and serving food are supervised adequately or receive training commensurate with their level of responsibility. This is a legal requirement under EC legislation. It is important that resources are available to ensure that this requirement is met. There is also a need to publicise guidelines on food handlers' fitness to work, of the type published by the Department of Health in 1995 and 1996. Food handlers who are infective should not continue to work in that capacity and paid sick leave should be available.

- **Climate change:** Climate change may result in an increase in food poisoning. The report by the Health Protection Agency and the Department of Health (2008) on "Health Effects of Climate Change in the UK" repeats their estimate of 2001/2 that a 1°C rise in temperature might result in about a 4.5% increase in food poisoning. The absolute numbers of additional cases will depend on the scenarios for temperature and the baseline number of cases of food poisoning.

With regard to the Discussion Paper in general,

1. When considering the need for a proactive approach to planning for potential disasters that could affect food security, we are surprised to find no mention of a potential avian flu human pandemic or the impact it would have on the fabric of society including the food supply. This omission is all the more surprising in view of the Department of Health's "Review of the evidence base underpinning clinical countermeasures and risk from H5N1" and the Cabinet Office's own "Pandemic influenza checklist for businesses". We draw attention to the IFST Information Statement "Avian Influenza and Food", available at:

<http://www.ifst.org/uploadedfiles/cms/store/ATTACHMENTS/AvianInfluenzaandFood.pdf>

2. There is no hint of recognition that food safety (and food innovation) is crucially dependent on the role and work of food scientists and technologists - in the food and ingredients industries, in academia and research, in government departments and agencies, in food law enforcement, in local authorities and in consultancies.

Both food safety and innovation crucially depend on applying the food science knowledge that we have and gaining new knowledge. Both activities are the responsibility of the food science and technology profession and food professionals. Specifically in relation to the important area of food law enforcement, there is no recognition in the Discussion Paper of the serious decline of the public analyst service through insufficient new people gaining the necessary MChemA qualification.

An understanding of all aspects of the science that underpins the supply of safe and high quality food depends on the maintenance of co-ordinated research and expertise in this area. This requires continued support and resources for relevant food chain research by Government departments and Agencies, universities and BBSRC-sponsored institutes.

The next phase of this project

This Discussion Paper has covered the first, analytical phase of the project. We note that a second part, now in progress, involves consulting on the trends, the challenges the UK faces in responding to the many issues in a coherent way, and how Government can help. As the voice of food professionals, IFST wishes to contribute to these consultations, both as regards what it can do and what the Government can do.

For its part, IFST recognises that research is constantly bringing new knowledge. However, collectively, the profession is the repository of existing knowledge in its field. It includes researchers expanding the boundaries of knowledge and experts seeking to apply it for the public benefit. Competence, integrity, and serving the public benefit lie at the heart of IFST philosophy. IFST will continue to endeavour to

- benefit the public supply of safe, wholesome, nutritious and affordable foods through the application of sound science and technology, taking into account the many elements that are important for the efficient and responsible supply,

manufacture and distribution of foods with due regard for the environment, animal welfare and the rights of consumers;

- improve public knowledge and awareness of important issues relating to the production, safety and quality of food;
- develop and communicate the knowledge underlying food science and technology, and further the education of food scientists and technologists;
- safeguard the public by defining, promoting, and upholding professional standards of competence, integrity and ethical behaviour; and
- maintain these standards by encouraging members to continue their professional education and development throughout their careers.

Regarding what the Government should do, we suggest it should

- improve resources for the reporting and investigation of the range of foodborne illnesses and publicise to the appropriate groups the importance of this reporting;
- recognise that trends in population changes, medical treatments, and increased consumption of ready-to-eat foods are liable to increase the total burden of foodborne illness, and work towards improvements in food safety;
- provide continued support and resources for relevant food chain research by Government departments and Agencies, universities and BBSRC-sponsored institutes;
- improve the future supply of scientists by introducing measures and incentives to increase the number and quality of young people taking science courses in general and food science courses in particular;
- provide improved incentives for people to train to become eligible to be Public Analysts;
- improve food safety by licensing food establishments under specific conditions as set out in IFST Policy Statement “Licensing of Food Establishments”
http://www.ifst.org/uploadedfiles/cms/store/ATTACHMENTS/licensing_policystat.pdf
- continue to ensure that all Government decisions covering food-related legislation, handling food safety incidents, dietary advice, etc are based on the best available scientific evidence and that the basis of its decisions are clearly explained and open to consultation;
- seek to improve further the way in which it explains the risks and benefits of food safety and dietary issues to both the general public and more informed audiences.