

Update on FAO activities

[**The Food and Agriculture Organization of the United Nations** leads international efforts to defeat hunger with its work focussing on access to safer and nutritious food for all of the global population. Serving both developed and developing countries, FAO acts as a neutral forum where all nations meet as equals to negotiate agreements and debate policy and as a source of knowledge and information. We help developing countries and countries in transition modernize and improve agriculture, forestry and fisheries practices and ensure good nutrition for all. Since our founding in 1945, we have focused special attention on developing rural areas, home to 70 percent of the world's poor and hungry people.]

Last year FAO further enshrined its commitment to working in the area of food safety through the adoption of a Strategic Objective entitled “Improved quality and safety of food at all stages of the food chain” as one of the 11 strategic objectives of the organization. This gives more visibility to the importance of food safety in the context of food security and development and helps raise awareness of food safety and quality among all the member countries of FAO.

This afternoon I would just like to give you a flavour of some of our ongoing and new activities in the area of food safety and quality that could be of interest to you. This will not be exhaustive in terms of the food safety and quality activities in which FAO are involved so I would be happy to speak with any of you individually if you would like further information or have any questions on any of these issues. Our work falls into to two broad areas – food safety scientific advice and risk assessment and capacity development and a recent new initiative which links with both of these is our EMPRES food safety program. Many of FAOs food safety activities are carried out jointly with WHO. Also FAO together with WHO are the parent organizations of the Codex Alimentarius food safety activities are also closely aligned with the work of Codex and its priorities.

Scientific Advice

1. JEMRA

The area of Microbiological risk assessment continues to be one in which FAO, together with WHO is very active. This year in fact marks 10 years of activities of the Joint FAO/WHO Expert Meetings on Microbiological Risk Assessment (JEMRA). During those 10 years we have worked with many experts around the world, some of which are sitting here so I would like to use this opportunity to thank you for your contributions which have ensured the high output of JEMRA over the last decade. In recent years JEMRA has been more active in supporting the uptake of MRA by countries. Some of you may be familiar with the risk assessment tool that was developed for *Cronobacter* spp. in powdered infant formula. Currently JEMRA is working on the development some tools which can assist countries in their risk assessment work. One of these is a tool to assist in the Control of Salmonella and Campylobacter in poultry. There is another under development to assess the performance of microbiological sampling plans and we are looking to release a first version of each of these by the end of this year. In the medium term these tools will be supported by case studies and training packages. Following requests from our members we will also begin work in September on tools that could assist in the application of measures for the control of

Vibrio spp. in seafoods, a problem which seems to be spreading and on the increase. Some tools are already used for this purpose in the US but we are interested in expanding the applicability of these so that they are useful for any country having to deal with this problem. Another aspect of this work will be in relation to the methodology used for *Vibrio*....there is currently a diverse range of methods used and the absence of harmonized approaches makes comparison of results and data difficult.

For more information see http://www.fao.org/ag/agn/agns/jemra_index_en.asp

2. Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption

Keeping on the risk theme FAO, together with WHO earlier this year convened a meeting on the risks and benefits of fish consumption comparing the health benefits of fish consumption to the health risks associated with the contaminants methylmercury (MeHg), dioxins and dioxin-like PCBs (DLCs) that may be present in fish. This meeting recognized the importance of fish in the diets of the general population highlighting for example that once intake of DLCs do not exceed the provisional tolerable monthly intake (PTMI) of 70 picograms/kg bodyweight/month established by JECFA neurodevelopmental risk is negligible. But this may change if DLC intake was greater than this. The important role of risk communication in risk management for vulnerable population groups was emphasised but also it was noted that among infants, young children, and adolescents, the available data are currently insufficient to derive a quantitative framework of health risks and benefits of eating fish.

For more information see http://www.fao.org/ag/agn/agns/meetings_consultations_2010_en.asp

3. The Application of Nanotechnologies in the Food and Agriculture Sectors: Potential Food Safety Implications

The advent of nanotechnology has unleashed enormous prospects for the development of new products and applications for a wide range of industrial and consumer sectors. The new technological developments have already opened up a multibillion dollar industry. Although the potential applications of nanotechnology are wide ranging, the current applications in the food and agricultural sectors are relatively few. However, nanotechnology-derived products and applications in these sectors have been steadily increasing in recent years, and are predicted to grow rapidly in the future. This is clearly an area where scientific advice on any food safety implications that may arise from the use of nanotechnologies is required. FAO, together with WHO convened its first meeting on this issue last year. Risk assessment of nanoparticles was an important area of discussion and it was recommended to review RA strategies and approach for this area. It was proposed to develop a tiered approach that might enable the prioritization of types or classes of materials for which additional data are likely to be necessary to reduce uncertainties in the risk assessment. This work is currently underway.

Recently there was an International Conference on Food and Agriculture Applications of Nanotechnologies in Brazil for which FAO was a co-sponsor. Our particular interest was identifying areas which could be of particular relevance of developing countries. Areas of particular interest and which follow up will be initiated include water safety, packaging and contaminant detection.

For more information see http://www.fao.org/ag/agn/agns/nanotechnologies_en.asp

4. Joint FAO/WHO Project to assess the benefits and risks of the use of 'active chlorine' in food production and processing

The main goals of this project were to consider the risk of disinfection by-products (excluding environmental impact) versus the benefit of lowering the risk of microbial hazards, following the use of active chlorine for disinfection purposes in food production and processing. The risk-benefit

assessment integrated the results of two separate activities: risk assessment and benefit assessment. Due to lack of data that would allow a quantitative assessment, the meeting developed a stepwise approach to risk benefit assessment of chlorine containing disinfectants and other alternatives, to allow for a systematic comparison in a qualitative manner. Where scientific data were available, an assessment of risk and/or benefit was undertaken, and the meeting categorized the use scenarios per food commodity in one of the following four categories

1. No health concern identified, nor benefits identified
2. No health concern identified, but benefits identified
3. Health concern identified, no benefits identified
4. Health concern identified, and benefits identified

The meeting identified several disinfectant use scenarios where there were no health concerns identified but for which there was a benefit. Only use scenarios, for which it was concluded that there are both health concerns and benefits were considered to need further evaluation. However, the meeting did not identify use scenarios which were of this type. The level of evidence supporting these conclusions, as well as the uncertainties, is discussed in the report. The meeting identified important gaps in the available data. These data gaps constrained the scope of the risk-benefit assessments. Consequently, the meeting agreed a number of recommendations for further scientific studies and the development of standardized practices. The meeting emphasized that disinfectant treatments in food processing must not be used to mask poor hygienic practices.

For more information see http://www.fao.org/ag/agn/agns/chemicals_chlorine_en.asp.

5. Joint FAO/WHO Expert meeting to review toxicological and health aspects of Bisphenol A

The intention of this meeting will be to analyse the available scientific data in this area with a view of providing an updated description of potential human health risks related to BPA exposure. The specific scope of the meeting will be to review current knowledge on:

- Occurrence of BPA in food, including possible migration from food contact material
- Exposure to BPA from different sources, including specifically exposure through food as a result of migration from food contact material
- Toxicity of BPA based on animal studies, including OECD guideline studies as well as research studies with other study designs
- Review of epidemiological studies
- Human health risk assessment, including consideration of sensitive sub-populations and sensitive life-stages

The meeting is being convened with the support and collaboration of the Canadian government.

For more information see http://www.fao.org/ag/agn/agns/chemicals_en.asp

6. Science for Safe Food

All of the initiatives which I have mentioned require resources and investment. To ensure that such resources are available FAO just last month launched its Strategy for the Provision of Scientific Advice for Safe Food. This 4 year strategy has been launched in the wider context of FAOs reform has a strong emphasis on partnership and we are currently engaging with potential partners on how to best implement this strategy. We continue to seek further partners and welcome interest in this area.

For more information see http://www.fao.org/ag/agn/agns/advice_en.asp

7. EMPRES Food Safety – Emergency Prevention systems for Food Safety

The adverse impact of food safety emergencies on global food security and public health can be enormous. We are all familiar with some of the more recent ones melamine in foods, dioxin in pork. In developing countries contaminants such as mycotoxins continue to have a huge impact

which can sporadically peak when for example adverse weather impacts harvest and storage conditions. The EMPRES food Safety Program has three elements, Early warning, Emergency prevention and Rapid Response. The early warning element will focus on food safety intelligence gathering and horizon scanning and will work closely with INFOSAN to provide early warning of food safety threats. Emergency prevention is strongly linked with capacity development but also seeks to prioritize food safety threats and prevent them from escalating and fill knowledge gaps related to the identified priorities. As we cannot predict and prevent everything emergencies will still occur but responding quickly and effectively will minimize the impact. In this regard guidelines on dealing with food safety emergencies have recently been issued.

For more information see http://www.fao.org/ag/agn/agns/index_en.asp

Capacity development

8. Guidelines and tools

In the area of capacity development food inspection continues to be an important area. Over the past two years FAO has produced guidance on risk based food inspection systems in general and in specific commodity areas such as fish. Work is now ongoing on import inspection systems...this closely follows work in Codex.

While the value of the risk analysis framework for food safety is widely accepted its application continues to be fraught with challenges particularly in developing countries. A new education package on risk analysis is currently being developed together with WHO and ICD to provide very practical and pragmatic guidance, examples and case studies.

For more information see http://www.fao.org/ag/agn/agns/capacity_en.asp

9. Decision Support Tool for Investments in Public Food Safety Programmes

While there is broad international consensus (including through the WTO SPS Agreement and Codex) on the utility of science and risk-based approaches to identifying food safety hazards, and the food control systems that aim to manage these hazards, few countries have systematically identified food safety priorities based on a risk analysis framework, and allocated public resources according to a systematic comparative evaluation of risks against the costs and benefits (direct and indirect) that could be expected from such investment¹.

We are currently in the process of scoping a project to strengthen approaches and develop tools to inform and support national and multi-lateral decisions on investment in public food control through integrated multi-disciplinary approaches to food control risk, cost and benefit analysis.

¹ See *Risk Analysis*, Vol. 30, No. 5, 2010 for a range of papers considering problems associated with risk analysis, ranking/prioritization and decision making regarding food control.