

Conference Report

EFSA 15th scientific colloquium: Emerging risks in food - from identification to communication

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The increasing complexity of our food and feed production systems, the globalisation of trade, major environmental challenges, and the introduction of novel foods and of new food processing technologies may give rise to new risks in the food chain. As a consequence, decision-makers are now

becoming increasingly aware of the importance of having robust systems in place to identify risks at their early inception. According to current EU Regulations on Food Safety, EFSA is mandated to “undertake action to identify and characterise emerging risks”, and in 2008 EFSA established, for this purpose, a dedicated unit on emerging risks. In October 2010, over 100 international experts from 29 countries gathered in Parma at the Colloquium on “Emerging Risks in Food - from Identification to Communication”, for an open scientific debate on four main topics related to emerging risks, namely: (i) available methods to identify new hazards and/or exposures and assess emerging risks; (ii) strategic sources of information for data collection; (iii) identification of drivers of change as underlying causes of emerging risks; (iv) opportunities for the establishment of an international network to communicate on emerging risks to risk managers and policy makers. The outcome of this discussion provides practical inputs for development of a European framework for emerging risks identification.

In October, 2010, over 100 international experts from 29 countries, including US, Australia and New Zealand, gathered in Parma, Italy, for the Colloquium on “Emerging Risks in Food - from Identification to Communication”. Representatives from the European Commission, the European Centre for Disease Prevention and Control (ECDC), EU Member States, pre-accession and potential candidate countries, several inter-governmental organizations (e.g. FAO and WHO), as well as several food companies took part in the Colloquium. This event is one of the Scientific Colloquium Series hosted since 2004 by the European Food Safety Authority (EFSA) to provide a forum for international debates on selected scientific issues related to risk assessment in food and feed. As other Colloquia, it was organised in a way that provides ample opportunity for interactive exchange of views and discussion amongst participating experts. Following a short plenary session consisting of a few introductory presentations, participants split up into different discussion groups. The outcome of these discussions were presented and discussed in a final plenary session to formulate the conclusions of the Colloquium and, as appropriate, recommendations to EFSA.

In a rapidly changing world, governments are frequently confronted with challenges arising from a broad range of domains. The increasing complexity of current food and feed production systems, the globalisation of trade, the introduction of novel foods and of new food processing

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technologies, climate change and other factors, may give rise to new hazards and/or exposures in the food chain. In addition to other negative impacts, these hazards and/or exposures, if not properly identified and controlled, are likely to cause adverse effects on human, animal and plant health. Moreover, already known risks may re-emerge due to a variety of reasons, such as the expansion of our internal market, changes in the (dietary) habits of our citizens or the changing conditions and methods relating to food production. As a consequence, decision-makers are now becoming increasingly aware of the importance of having robust systems in place to identify new hazards and assess risks at their early inception (Havelaar *et al.*, 2010; King & Thomas, 2007; Kocharov, 2010). Ideally, such a system would provide an opportunity for risk assessors to undertake the risk characterisation and communication well in advance, and for risk managers to put in place timely strategies for prevention and control, thus avoiding undesirable consequences in the general population.

According to current EU Regulations on Food Safety, EFSA is mandated to *undertake action to identify and characterise emerging risks*, and in 2008 EFSA established, for this purpose, a dedicated unit on emerging risks (EC, 2002). Over the last few years, EFSA has started to implement its programme by sponsoring consultations with external experts, developing an operational definition of emerging risks and an overall framework for the collection, analysis and evaluation of the relevant information, and establishing an *ad hoc* network (EFSA, 2009; VWA *et al.*, 2006). The definition of an “emerging risk” currently in use in EFSA is that developed by the Scientific Committee in 2007: “*an emerging risk to human, animal and/or plant health is understood as a risk resulting from a newly identified hazard to which a significant exposure may occur, or from an unexpected new or increased significant exposure and/or susceptibility to a known hazard*” (EFSA, 2007).

The Colloquium on Emerging Risks, held in Parma last October, brought together international experts from different sectors for an open scientific debate on four main topics related to emerging risks, namely: (i) available methods to identify new hazards and/or exposures and assess emerging risks; (ii) strategic sources of information for data collection; (iii) identification of drivers of change as underlying causes of emerging risks; (iv) opportunities for the establishment of an international network to communicate on emerging risks to risk managers and policy makers. The outcome of this discussion provides practical inputs for developing of the EFSA’s methodological framework for assessing emerging risks.

As the emergence of new risks, including those in the food chain, may depend on a variety of different factors and circumstances, which may be very difficult to predict, the systematic identification of new hazards and assessment of emerging risks is a process involving the gathering and evaluation of large amounts of information from different sources, including wide expert consultations, with the aim

of supporting decision-makers on potential future threats. Moreover, as data leading to the identification of new hazards and/or exposures are likely to be characterised by considerable limitations and uncertainties, the assessment of emerging risks requires a structured intelligence approach, based on a high level of organization and multidisciplinary expertise in a broad range of sectors. Principles and methods for identifying new hazards and/or exposures and assess emerging risks have been formalised mainly in the context of “Foresight”. Foresight is a well-established process, rarely applied to food safety, that encompasses a broad range of intelligence activities aimed at enhancing future oriented thinking for strategic planning and policy makers (Popper, 2008). Qualitative and quantitative methods are available to generate, elicit, synthesise and filter information at different stages of the process (*e.g.* expert panels, trend analysis, Delphi studies, literature reviews, horizon and internet scanning, scenario building among others). The selection of the most appropriate set of methods should be done by weighing a set of criteria, including their ability to gather and filter information, the time anticipation horizons, the outputs expected by the policy makers, the expertise and resources available. Lastly, but not of minor importance, the validation of the efficacy of a system for the identification of emerging risks is a challenging issue to be seriously considered by taking into account not only the evaluation of the ability of the system to identify new and re-emerging risks earlier than traditional systems, but also the usefulness of other types of outputs, such as the establishment of networks, the generation of new knowledge and new paradigms, and the fostering of innovation and technologies.

The outcome of the discussion on strategic sources of information highlighted a number of issues of potential interest. The remit of EFSA is extremely broad, which makes it challenging to be able to monitor effectively all relevant hazards possibly coming from biological, chemical, and physical agents as well as human behaviour factors (*e.g.* excessive or unbalanced nutrition). In order to clarify what types of sources (*e.g.* surveillance data, results from recent research projects, online media reports) to look for and which to monitor, clear targeted issues/topics should be first identified. Once the data on potential new hazards have been collected, connecting them in a realistic context is crucial to define plausible future scenarios. For this scope the importance of a multidisciplinary approach, involving the stakeholders at national and international level can not be overemphasized. With reference to data collection, the types of data of potential interest are various, ranging from structured and unstructured to qualitative and quantitative information. For this purpose communication and networking is essential to avoid duplication of efforts. Similarly, sources of information are extremely variable. They range from human and animal surveillance data, to recent development from research, but also from information collected by the industry from post-marketing surveillance, to

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