

PARMA, 9/10 OCTOBER 2012

**Minutes of the
7th Meeting of the EFSA Network on
Microbiological Risk Assessment**

Parma, 9/10 October 2012

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11. The evolution of 'X'-based terms in international standards
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Participants

Members States and other National representatives:

Austria (Monika Matt), Belgium (Isabel De Boosere), Bulgaria (Hristo Miladinov Naydenski), Cyprus (Georgios T. Papageorgiou), Czech Republic (Renáta Karpíšková), Denmark (Maarten Nauta), Finland (Pirkko Tuominen), France (Pauline KooH), Germany (Juliane Braeunig), Greece (Vassilis Xanthopoulos), Hungary (László Mészáros), Ireland (Wayne Anderson), Italy (Dario De Medici), the Netherlands (Benno ter Kuile), Norway (Danica Grahek-Ogden), Poland (Halina Ścieżyńska), Portugal (Alexandra Brandao da Veiga), Slovak Republic (Lubomir Valík), Spain (Elena Carrasco Jimenez), Sweden (Maria Egervaern), Switzerland (Hans Schmid), United Kingdom (Geraldine Hoad), Croatia (Brigita Hengl).

Hearing Expert

Arno Swart (RIVM)

EFSA (BIOHAZ)

Marta Hugas (Chair), Ernesto Liebana, Michaela Hempen

Minutes

1. Opening, welcome and apologies for absence

The chair welcomed the participants. Apologies were received from Germany, Italy, Lithuania, Portugal, and from the European Commission.

2. Adoption of the agenda

The draft agenda was adopted.

3. Declaration of interest

No conflicts of interest of a general nature were identified for any of the persons attending the meeting.

4. Work programme of EFSA's Panel on Biological Hazards (BIOHAZ)

The BIOHAZ Unit presented recent MRA activities of the BIOHAZ Panel. The opinions presented were:

- Meat inspection poultry
- Risk ranking framework
- Lessons learnt from modelling
- Review of EU summary reports
- Composite products
- *Salmonella* in turkey

5. Prevalence of *E. coli* and *Salmonella* in pre-washed vegetables from restaurants and hotels in Cyprus (CY)

Cyprus (Georgios T. Papageorgiou) presented an on-going study on the microbiological quality of fresh vegetables. The objective was to assess the quality washed and packed or unpacked salad in supermarkets and various catering facilities. Washed and packed vegetables appear to be safe for consumers. The identification of a small number of salad samples contaminated with *Salmonella* is a concern. The project will be extended to Norovirus.

6. Control of imported sesame seeds in Cyprus (CY)

In a second presentation, Cyprus (Georgios T. Papageorgiou) presented results of another on-going study on *Salmonella* in imported sesame seeds and products thereof. In the years 2009-20012, 25 batches of imported sesame seeds were tested and *Salmonella* were found in 6 (24%) batches. The samples of products made from sesame seeds were found negative.

7. Risk assessment of different VTEC serotypes that may be detected in a survey of vegetables in Sweden (SE)

Sweden (Mia Egervaern) presented results of a risk assessment on VTEC in vegetables. The overall risk question was: what are the differences in health risk associated to the VTEC types O157, O26, O103, O111 and O145? It appeared that *vtx-2* VTEC generally causes more severe symptoms than *vtx-1*, but this also depends on the serotype, e.g. in the EU in 2010, most clinical cases associated to VTEC O103 and O26 contained the *vtx-1* gene. The *eae*-gene is generally regarded as a risk factor; it was found in more than 90% of clinical cases in North America (USDA, 2011). However in 2010, 4% of reported cases in the EU were linked to VTEC without *eae*-gene. Most outbreak cases

seem to be caused by VTEC O157, but other serotypes can also cause severe illness. Raw bovine milk from vending machines in Czech Republic (CZ)

Czech Republic (Renáta Karpíšková) gave a presentation on a study on the microbiological quality of raw milk from vending machines. The study was carried out because of the rapid expansion of raw milk vending machines and increased consumption. The study has been carried out from January to December 2010. 219 raw milk samples have been collected from 27 vending machines run by 15 dairy farms. The following pathogens have been isolated from the raw milk samples: *S. aureus* (56%), *Campylobacter* spp. (4.6%), *Salmonella* spp. (3.7%), and *L. monocytogenes* (1.9%).

8. Exposure assessment of *Bacillus cereus* from pasteurized milk in Slovakia (SK)

Slovakia (Lubomir Valík) presented results from an exposure assessment of *B. cereus* in pasteurised milk. The growth of *B. cereus* was modelled dependent on storage time and temperature. The estimated proportion of pasteurised milk containing *B. cereus* > 10⁵ cfu/ml depends on a) distribution of storage temperature, b) distribution of already sold packages, c) the initial number of *B. cereus* and d) the presence of accompanying microflora. The assessment concluded that the exposure to *B. cereus* in pasteurised milk is moderate and the risk is negligible.

9. The risk-benefit evaluation of raw cow milk consumption and the effect of heat treatment on these risks and benefits in Belgium (BE)

Belgium (Isabel De Boosere) gave a presentation on risk and benefits of raw cow milk consumption as compared to heat-treated milk. A literature review was carried out, which was supported by expert opinion and advice from the Belgian scientific committee of the Federal Agency for the Safety of the Food Chain. A clear relationship between the raw milk consumption and human illness was established for *Salmonella*, *Campylobacter*, human pathogenic *E. coli* and, to a lesser extent, *L. monocytogenes*. Heat treatment achieves a significant reduction of pathogens. Pasteurisation, however, favours germination of *Clostridium perfringens* and *Bacillus cereus* spores, if present, and toxin production, which are not a risk in raw milk.

UHT and sterilisation treatments produce a commercially sterile product. Nutritional benefits of milk are not affected by heat treatment. The most important negative effect of heat treatment, especially for UHT and sterilisation, is that it changes the organoleptic profile (“boiled taste”). The conclusions were that the consumption of raw milk represents a microbiological risk and that heat treatment is an efficient method to reduce this risk without affecting the nutritional value. More risk assessments are currently ongoing on raw milk products and raw milk from other animal species.

10. The evolution of X-based terms in international standards (IE)

Ireland (Wayne Anderson) explained the evolution of risk assessment terms on the Codex Alimentarius context. The Risk Analysis framework, describing risk assessment, risk management and risk communication were published in 2007. The principles and guidelines for the conduct of microbiological risk assessments were already published in 1999. This document describes the now commonly used risk assessment concepts: hazard identification, exposure assessment, hazard characterisation and risk characterisation. In the late 1990's, the ICMSF proposed a quantitative approach. Starting from an initial level of a pathogen in a raw material, growth and reduction is calculated along the food chain in order to estimate the number of that hazard at the point of consumption. Based on these proposals, Codex developed the risk management concepts of Food Safety Objective (FSO), Performance Criterion (PC), and Performance Objective (PO).

The Codex Committee on Food Hygiene (CCFH), in its Microbiological Risk Management Guidelines (2007), introduces “hazard-based” and “risk-based” approaches. Risk-based are control measures that are derived from a quantitative risk assessment, and therefore linked to a quantified level of health protection. Hazard-based measures are aiming at reducing a hazard that implicitly protects health but to an unquantified extent. In 2011, CCFH introduced yet another concept: the Good hygienic practice (GHP)-based approach. The GHP-based approach is generally qualitative in nature and based on empirical scientific knowledge and experience.

11. User-friendly Salmonella source attribution model (SAM) (EFSA contractor)

EFSA awarded a contract to develop a *Salmonella* source attribution model to support the BIOHAZ opinion on an estimation of the public health impact of setting a new target for the reduction of *Salmonella* in turkeys (EFSA-Q-2010-00899¹). This model was then developed further to be used by risk assessors in the MSs. The SAM model was presented by Denmark (Maarten Nauta) on behalf of Tine Hald (Food-DTU, EFSA contractor). The full description of the model is available on the EFSA website². EFSA makes the model available upon request.

12. User-friendly Salmonella in pigs model (GUI) (EFSA contractor)

EFSA awarded a contract to provide graphical user interface (GUI) for quantitative model developed under a grant agreement with VLA, RIVM, and Food-DTU, to support the BIOHAZ opinion on QMRA on *Salmonella* in slaughter and breeder pigs (EFSA-Q-2006-176³). The aim of this GUI is to make the complex model faster and more user-friendly, with the intention to make it available to risk assessors in the MSs, as was suggested in the recommendations of the scientific opinion. The contractor's report and

¹ <http://www.efsa.europa.eu/en/efsajournal/pub/2616.htm>

² <http://www.efsa.europa.eu/en/supporting/pub/318e.htm>

³ <http://www.efsa.europa.eu/en/efsajournal/pub/1547.htm>

the model itself will soon be available upon request. The full report of the original model is published on the EFSA website⁴

13. Whole Genome sequencing as a tool for microbial risk assessments (NL)

The Netherlands (Benno ter Kuile) presented a discussion note on whole genome sequencing and its benefits in risk assessment. The discussion note has been distributed to the MRA Network. Comments on the document should be sent to the BIOHAZ secretariat.

14. MRA Network's areas of interest (SE)

Sweden (Mia Egervaern) presented some ideas on how the next MRA Network meetings could be organised in order to allow the Network to work on themes/topics on a longer term. Currently, specific subjects are addressed in an *ad-hoc* manner, i.e. as a topic on the agenda of the meeting. Sweden proposed that the next meetings covers broadly defined themes based on interests of the members and that the agenda foresees break-out sessions on those themes, e.g. molecular methods, data collection challenges. In the different break-out sessions, more intense discussions on experiences and research needs can be exchanged and later presented to the plenary. This structure would allow addressing several themes/topics in more detail and identifying specific needs and interests of the MS to be addressed in future.

A *tour de table* followed this short presentation to get feedback from the network on this suggestion. The network agreed that this approach should be taken for the next MRA Network meeting next spring 2013. It was also mentioned that these break-out sessions will need to be prepared well ahead of the meeting.

15. Date and venue for next meeting and AOB

The MRA Network members agreed to maintain the bi-annual meeting schedule, a spring meeting in Brussels and an autumn meeting in Parma.

16. Closure of the meeting

The meeting was closed at 13 h.

⁴ <http://www.efsa.europa.eu/en/supporting/pub/46e.htm>