

## TECHNICAL REPORT

# Annual report of the Microbiological Risk Assessment Network<sup>1</sup>

European Food Safety Authority<sup>2, 3</sup>

European Food Safety Authority (EFSA), Parma, Italy

### KEY WORDS

Microbiological risk assessment, network, meeting

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## SUMMARY

Developing networking and stronger co-operation with the Member States, and strengthening EFSA's relationship with its institutional partners (EU and international) and stakeholders are among the key recommendations formulated by EFSA's Management Board. In accordance with EFSA's strategy<sup>2</sup> for cooperation and networking with Member States, the Scientific Network on Microbiological Risk Assessment (MRA) was launched in 2007. The main overall goals of this Scientific Network are to: (i) improve dialogue among participants; (ii) build mutual understanding of risk assessment principles; (iii) enhance knowledge on and confidence in the scientific assessments carried out in EU; (iv) and to provide increased transparency in the current process among Member States and EFSA. In turn, it aims to raise the level of harmonisation of the risk assessments developed in EU.

Currently, 22 EU Member States plus Switzerland and Norway are members of the Scientific Network on MRA. The 5<sup>th</sup> meeting of the network held in June 2011, was attended by 18 members and four representatives of EU Candidate Countries. The following issues were discussed: *E. coli* (STEC O104:H4) outbreak in Germany, *Salmonella* Bareilly outbreak associated with bean sprouts in the UK, *Listeria monocytogenes* as an emerging hazard, possible control options to prevent the selection for antibiotic resistance in the agricultural sector, and occurrence of yersiniosis in Norway. In addition, the participants exchanged information on the risk assessment activities carried out since the last meeting at member state level, and in EFSA,

The MRA Network drafted a reflection paper on possible control options to prevent the selection for antibiotic resistance in the agricultural sector. This document was tabled for information to the Biological Hazards Panel.

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## BACKGROUND AS PROVIDED BY EFSA

The Scientific Panel on Biological Hazards (BIOHAZ) deals with questions on biological hazards relating to food safety and food-borne disease, including food-borne zoonoses and transmissible spongiform encephalopathies, microbiology, food hygiene and associated waste management. In this context, EFSA created a network of experts from all EU Member States. They have been nominated by the Advisory forum of EFSA, and they represent the EU Member States. The members of this network act as national contact points for the issues of Microbiological Risk Assessment (MRA) of food-borne zoonoses and other food microbiology issues.

## TERMS OF REFERENCE AS PROVIDED BY EFSA

- To strengthen scientific cooperation on microbiological risk assessments in EU Member States
- To facilitate the identification of experts for specific microbiological risk assessments
- To exchange information on planned or current MRA activities
- To cooperate in calls for data,
- To share data and existing risk assessment models
- To create an inventory of MRA studies
- To identify data needs and knowledge gaps

## ACTIVITIES

### 1. Follow-up activities from annual meeting 2010

The two BIOHAZ self-tasking mandates that were initiated as proposals from the MRA Network have been adopted by the BIOHAZ Panel. The mandate on food-borne viruses (EFSA-Q-2009-00877) was published on the EFSA website in July 2011, and the mandate on risk based control of biogenic amine formation in fermented foods (EFSA-Q-2009-00829) in October 2011.

### 2. Annual Meeting 2011

The annual meeting was held on 15 June 2011 in Parma, and was attended by representatives from 16 MS, two observer countries (Norway and Switzerland), and four EU Candidate Countries (Croatia, the Former Yugoslav Republic of Macedonia, Montenegro, and Turkey). Apologies were received from Denmark, Germany, Lithuania, Portugal, Spain, and from the European Commission.

The following issues were discussed:

- *E. coli* (STEC O104:H4) outbreak in Germany

The BIOHAZ Unit gave a presentation on EFSA's activities related to the "Shiga toxin-producing *E. coli* (STEC) O104:H4 outbreak in Germany" and highlighted the major conclusions from the BIOHAZ report "Urgent advice on the public health risk of Shiga-toxin producing *Escherichia coli* in fresh vegetables<sup>4</sup>". Some issues were raised during the discussion, namely the lessons to be learnt from this outbreak in particular regarding the importance of real-time data sharing in a crisis scenario. The limitations of the public health advice on prevention of infection in this outbreak were also noted, as although washing of vegetables may reduce the microbial load, the only effective method of eliminating STEC from foods is to introduce a bactericidal treatment, such as heating (e.g. cooking or pasteurization) or irradiation.

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<sup>4</sup> [www.efsa.europa.eu/en/efsajournal/pub/2274.htm](http://www.efsa.europa.eu/en/efsajournal/pub/2274.htm)

- *Salmonella* Bareilly outbreak associated with bean sprouts in the UK

The representative from the United Kingdom presented “*Salmonella* Bareilly outbreak in the UK linked to bean sprouts”. Details on the epidemiological and microbiological outbreak investigation were given, as well as on the risk communication during the outbreak.

In general, Member States were aware of the relevance of sprouts as a vehicle of outbreaks and also recognised an increase in the occurrence of vegetable-related outbreaks, which poses new and specific questions for risk assessment, such as *e.g.* growth of pathogens on sprouts during storage (shelf-life studies) and microbiological risk assessment in sprouts.

Some Member States have implemented specific risk mitigation procedures *e.g.* in Sweden heat-treatment of seeds at 80-85 °C for 30-40 seconds is used.

- *Listeria monocytogenes* as an emerging hazard

The BIOHAZ Unit gave a presentation on “*Listeria monocytogenes* as an emerging hazard? Ongoing data collection exercises in EFSA and needs for future risk assessments”. Results of the 2009 European Union Summary Report on Trends and sources of zoonoses, zoonotic agents and food-borne outbreaks were shown and the ongoing EU-wide baseline survey (BS) on *L. monocytogenes* in certain ready-to-eat (RTE) foods was presented. It was highlighted that the predictive data to be collected via *L. monocytogenes* BS may be relevant to study the behavior of other foodborne pathogens such as *Clostridium botulinum*. This BS was seen as an opportunity to trigger additional data collection *e.g.* on genome analysis from the different *L. monocytogenes* isolates that will have to be stored for two years as well as on food consumption habits/patterns.

Some MRA Network members considered that the shelf-life studies for *L. monocytogenes* in RTE foods (as requested by Commission Regulation (EC) No. 2073/2005 on microbiological criteria for foodstuffs) could benefit from further harmonisation in particular for small food business operators in smaller Member States.

Some MRA Network members also considered that their national surveillance systems are capable to detect sporadic human listeriosis cases efficiently and the UK informed that last year a decrease in human listeriosis cases was observed after increase of cases in the previous years.

- Possible control options to prevent the selection for antibiotic resistance in the agricultural sector

The representative from the Netherlands presented a draft document on “Possible control options to prevent the selection for antibiotic resistance in the agricultural sector”. This document triggered a lively discussion.

It was suggested that the document will be converted into a reflection paper to be presented to the BIOHAZ Panel. The chair agreed to present it to the BIOHAZ chair for consideration.

- Occurrence of yersiniosis in Norway.

Truls Nesbakken from the Norwegian School of Veterinary Science, Oslo, gave a presentation on “Occurrence of yersiniosis in Norway”. ‘*Yersinia enterocolitica* in pigs and pork and yersiniosis’ was described as a case-study underlining the need for a risk-based meat inspection in Europe.

In addition, the participants exchanged information on the risk assessment activities carried out since the last meeting at member state level, and in EFSA.

The Network members expressed their interest to have two meetings per year. The next meeting will be held in spring 2012 in Brussels.

The meeting minutes are published on the MRA Network section of EFSA website<sup>5</sup>.

### **3. Follow-up activities from annual meeting 2011**

The Netherlands presented to the Network a draft document on “*Possible control options to prevent the selection for antibiotic resistance in the agricultural sector*”. The paper was discussed during the meeting, and circulated to the network members for comments.. The resulting reflection paper was tabled for information to the Biological Hazards Panel.

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<sup>5</sup> [www.efsa.europa.eu/en/biohaz/biohaznetworks.htm](http://www.efsa.europa.eu/en/biohaz/biohaznetworks.htm)