**Network on Microbiological Risk Assessment**

**Minutes of the 9th meeting**

**Held on 19/20 November 2013, Parma**

**(Agreed on 29/11/2013)**

## Participants

- **Network Representatives of Member States:**

| Country | Name | Country | Name |
|---|---|---|---|
| Austria | Monika Matt | Hungary | László Mészáros |
| Belgium | Isabel De Boosere | Ireland | Wayne Anderson |
| Bulgaria | Hristo Miladinov Naydenski | Italy | Dario De Medici |
| Croatia | Brigita Hengl | Lithuania | Rūta Bubulienė |
| Czech Republic | Vladimír Špelina | Netherlands | Benno ter Kuile |
| Cyprus | Christos Kourtis | Poland | Halina Ścieżyńska |
| Denmark | Maarten Nauta | Portugal | Elisa Maria Carrilho |
| Finland | Pirkko Tuominen | Slovakia | Lubomir Valík |
| France | Pauline Kooh | Spain | Elena Carrasco Jimenez |
| Germany | Juliane Bräunig | Sweden | Mia Egervärn |
| Greece | Vassilis Xanthopoulos | United Kingdom | Geraldine Hoad |

- **Network Representatives of other countries:**
  - Norway: Danica Grahek-Ogden
  - Switzerland: Hans Schmid
- **EFSA:**
  - BIOHAZ Unit: Ernesto Liebana Criado, Winy Messens, Michaela Hempen
  - BIOMO Unit: Frank Boelaert
  - SCER Unit: Tilemachos Goumperis

## 1. Welcome and apologies for absence

The Chair welcomed the participants.

Apologies were received from Ireland (Wayne Anderson), Lithuania (Rūta Bubulienė) and Portugal (Elisa Maria Carrilho).



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## 2. Adoption of agenda

The agenda was adopted without changes.

## 3. Agreement of the minutes of the 8th meeting of the Network on Microbiological Risk Assessment held on 23/24 April 2013 in Brussels.

The minutes were agreed by written procedure on 21/05/2013 and published on the EFSA website on 22/05/2013.

## 4. Topics for discussion

### 4.1 Norovirus transmission estimation during deli sandwich preparation and on soft red fruits (TRAVIFOOD project, Belgium)

Belgium presented the TRAVIFOOD research project on Norovirus, hepatitis A virus and hepatitis E virus, transmissible via certain food products. Two parts of the project were presented.

- Norovirus transmission estimation during deli sandwich preparation

An exposure model was developed with different scenarios considering Norovirus on hands, foods and working surfaces. The scenarios are defined by different levels of interventions from no intervention (worst case) to all interventions combined (best case). Interventions were: using gloves, hand disinfection, surface decontamination, and hand washing after restroom visit.

The conclusion was that a single intervention was not sufficient to reduce Norovirus levels but combined interventions did reduce levels substantially. Hand washing after restroom visit was crucial with hand disinfection/gloves and surface disinfection as additional measures.

- Norovirus transmission via raspberries

Another exposure model was developed to describe the possible contamination of raspberry puree using different scenarios and interventions (inactivating pesticide, hand washing after restroom visit, heat treatment).

Preliminary conclusions indicate that hand washing seems very effective. The use of inactivating pesticide is only relevant if the number of Norovirus shedding food pickers is very limited. At processing stage, mild heat treatment seems sufficient in most cases.

More information is available on the project website[1].

### 4.2 HAV cases in Italy correlated with frozen soft fruits

Italy presented results of the investigation of a hepatitis A outbreak in Italy in 2013. Starting in January 2013, Italy observed a marked increase of reported hepatitis A cases, located mainly in Northern Italy. The results of a case control study indicated berries as the likely source of the outbreak. In addition raw sea food and travel were linked to a number of cases. The national reference laboratory sequenced 241 samples from human cases of which 175 (72.6%) were found to be highly related. The same outbreak sequence was also found in a sample of mixed frozen berries.

[1] http://pure.ilvo.vlaanderen.be/portal/en/projects/onderzoek-naar-de-virussen-nov-hav-en-hev-die-overdraagbaar-zijn-via-bepaalde-voedingsmiddelen-en-bijdrage-aan-de-risicobeoordeling(7ab15af8-6e76-4c08-b7d4-4735f4b8ea00).html

### 4.3 EFSA procedures for responding to urgent requests and four-year crisis training strategy

The EFSA Unit on Scientific Cooperation and Emerging Risks presented EFSA procedures for responding to urgent requests. The full document is available on the EFSA website[2].

Further, EFSA's food and feed crisis preparedness training was also presented. A detailed description of this training programme can be found in the report available on the EFSA website[3].

### 4.4 Breakout session: EFSA procedures for responding to urgent requests:

During the break out session the following questions were discussed:

- What should the general strategies be for investigating multi-state foodborne outbreaks? What tools/information do you have to investigate multi-state outbreaks?

Data collection should be harmonised to allow for statistical analyses and informed by risk assessors. Communication between authorities of various countries is important to share information, not only between countries but also between public heath and food safety authorities and risk assessors and risk managers within the countries.

- What action or coordination do you expect at EU level?

It appears important to have one coordinator at European level. Accessibility to EFSA's data is important as well as EFSA's replies to urgent requests. The different databases should be compatible and linked. In general, EFSA should provide support on risk assessment methodologies.

- Could the MRA Network be useful in the outbreak investigation and what kind of assistance could it provide?

The communication between EFSA focal points and MRA Network members is important. The Network could be useful in identifying necessary expertise.

### 4.5 Prevalence of Listeria monocytogenes in certain ready-to-eat foods in the EU, 2010-2011

The BIOMO Unit presented the Part A of the baseline survey on Listeria monocytogenes in certain ready-to-eat foods. The full report is available on the EFSA website[4].

### 4.6 Prevalence of Listeria in ready-to-eat foods in Switzerland

Switzerland presented analysis of data from 2006-2008. Almost 14,000 food samples were analysed. A wide range of food samples was tested but in only 18 samples, Listeria could be quantified. Food categories with highest rates of contamination were raw sausages (3.9%), smoked fish (1.4%) and semi-hard cheese (1.1%).

[2] http://www.efsa.europa.eu/de/search/doc/279e.pdf
[3] http://www.efsa.europa.eu/en/supporting/pub/388e.htm
[4] http://www.efsa.europa.eu/en/efsajournal/pub/3241.htm

### 4.7 Quantitative exposure assessment of S. aureus in fresh raw milk cheeses in Slovakia

Slovakia presented a quantitative exposure assessment on S. aureus in fresh raw milk cheese. Scenarios included addition of lactic acid bacteria and effect on growth of S. aureus. The conclusions were that after fermentation S. aureus exceeded 105 CFU/g in almost 12% and if consumed after 3 days in almost 9% of cheeses.

### 4.8 *C. burnetii* in unpasteurised milk and milk products in the UK

UK presented a risk profile on Q fever from the consumption of contaminated unpasteurised milk and milk products. The assessment was carried out by AHVLA. Outputs were probability and level of exposure to *C. burnetii* per serving of unpasteurised cows' milk. Preliminary results estimate the probability of exposure per serving = 0.417. Level of exposure is measured in intraperitoneal inoculation of guinea pigs ID50 = 814 (mean). However, there are many uncertainties. Key data were lacking: prevalence data, levels in milk, survival data, dose-response data). Laboratory methods to detect and enumerate viable *C. burnetii* need to be developed. Results are overestimating the true exposure however the model is useful for assessing a change in the disease and can be adapted for other hazards in milk.

### 4.9 Breakout session on raw milk

During the break out session the following questions were discussed:

- What are the national regulations in your country for selling raw milk?

Many of the national legislations are currently under revision. Some countries have regional differences. Some countries/regions do not allow the sale of raw milk.

- Which pathways exist in your country to sell raw milk to consumers?
    - Farm – consumer (may include restaurants and catering)
    - Farm – vending machines (often adjacent to shops/supermarkets)
    - Farm – stores
    - Farm – dairy - consumer

- Have you experienced outbreaks related to the consumption of raw milk or raw milk products?

Some countries experiences outbreaks related to the consumption of raw milk often related to farm visits but also from raw milk vending machines.

- According to your expertise which are the most important pathogens found in raw milk?

There appears to be a huge variability in the EU with regard to pathogens in raw milk. However, the pathogens that are more important seem to be VTEC and Campylobacter followed by Listeria and Salmonella.

- What type of data does your country collect on raw milk?
    - Outbreak data : raw milk is not always specified but some MS report
    - Consumption data : FI has done consumption surveys, BE is planning a new consumption survey.

  - AMR data : SE and AT may have data on antimicrobial resistance from isolates associated to raw milk
- Has your country done any risk assessments on raw milk or raw milk products?

More general risk assessments / profiles were done in BE, FI, FR, SE, SK and some special assessments were in DE, UK, DK, and NO.

### 4.10 Survival and virulence of the zoonotic pathogens Salmonella and E. coli O157 in greenhouse cultivation of butterhead lettuce (SALCOSLA project, Belgium)

Belgium presented the results of a project on survival and virulence of Salmonella and E. coli O157 on lettuce (pre-harvest). The model focussed on four critical points in lettuce production: growth and survival on seed and seedlings, in irrigation water and on growing lettuce crops.

Both Salmonella and E. coli O157 survive on seeds for at least 2 years with the best survival for Salmonella, and can then survive or even grow (especially in the case of E. coli O157) on the seedlings from these seeds. In irrigation water both pathogens survive better at 4˚C as compared to 20˚C and even more when the background flora is eliminated by fi!lter-sterilization. However, implications for contamination of lettuce by irrigation may be more related to the individual water source, probably because of the natural background flora present in the water. Environmental conditions (temperature, humidity) are the main factors that influence the survival of E. coli and Salmonella on butterhead lettuce. Better survival and growth were observed on the young inner leaves in the lettuce crop, which are preferably consumed. E. coli seems to have a specific survival strategy on plants by means of a specific gene expression response.

More information on the project website[5].

### 4.11 Swedish risk assessment of sprouted seeds

Sweden presented a risk assessment of sprouted seeds which was partly based on the EFSA BIOHAZ opinion on the risk posed by Shiga toxin producing Escherichia coli (STEC)6 and adopted to the Swedish situation.

Salmonella and VTEC are important hazards related to the consumption of sprouted seeds but it is not possible to quantify health risks. Apart from GAP, decontamination of seeds seems to be an effective measure to reduce risks. Pasteurisation and application of chemical substances reduce prevalence and numbers of pathogens most efficiently.

### 4.12 Melons: Health Hazard through Contamination with Pathogenic Bacteria in Germany

Germany presented a risk assessment on melons. The aim of the study was to characterise the risk of illness resulting from the consumption of melons and to recommend preventive measures to minimise that risk. Three scenarios were modelled, cut melons kept several hours at room temperature, cut melons eaten shortly after cutting, and cut melons kept refrigerated. Salmonella, Listeria and EHEC multiply only if cut melon is kept at room temperature for several hours. One of the main recommendations was that if melons are cut, the pieces should be refrigerated at 4-6˚C as soon as possible.

[5] http://pure.ilvo.vlaanderen.be/portal/en/projects/overleving-van-virulentie-van-de-zooenotische-pathogenen-salmonella-en-e-coli-o157-in-serreteelt-van-botersla(a690df9f-d12a-41e1-9f23-22a0ac729444).html
[6] http://www.efsa.europa.eu/en/efsajournal/pub/2424.htm

The opinion is available in German[7] (English translation will follow).

### 4.13 Current and recent activities of the BIOHAZ Panel

The BIOHAZ secretariat presented recent and ongoing MRA activities.

Adopted opinions since late meeting:

- Four opinions on modernisation of meat inspection
    - Bovine animals[8]
    - Sheep and goats[9]
    - Solipeds[10]
    - Farmed game[11]
- QPS 2013 Update[12]

Ongoing opinions:

- Request for scientific opinion on the public health risk related to the maintenance of the cold chain during storage and transport of meat (EFSA-Q-2013-646/648)
- Evaluation of the efficacy of peroxyacetic acid solution for reduction of pathogens on poultry carcasses and meat (EFSA-Q-2013-601)
- Risks of eggs due to deterioration and pathogens (EFSA-Q-2013-400)
- Risk Posed by Pathogens in food of non-animal origin FoNAO (Part II-EFSA-Q-2012-238, EFSA-Q-2013-176, EFSA-Q-2013-177, EFSA-Q-2013-178 and EFSA-Q-2013-179)
- Carbapenem resistance in food animal ecosystems (EFSA-Q-2013-00010)
- Development of a risk ranking toolbox for EFSA BIOHAZ Panel (EFSA-Q-2013-00014)
- Evaluation of molecular typing methods (EFSA-Q-2013-00032)

## 5. Revision of the terms of reference

Based on suggestions from a self-review of EFSA's scientific networks carried out in 2012 and following discussions in the Advisory Forum a revision of the MRA Network's terms of reference was done. A minor addition on the role of the MS representative and working methods were agreed. The revised TOR will be presented to the Advisory Forum.

## 6. Next meeting

The next meeting will be held in Brussels in spring 2014.

[7] http://www.bfr.bund.de/cm/343/melonen-gesundheitsgefahr-durch-verunreinigung-mit-pathogenen-bakterien.pdf
[8] http://www.efsa.europa.eu/en/efsajournal/pub/3266.htm
[9] http://www.efsa.europa.eu/en/efsajournal/pub/3265.htm
[10] http://www.efsa.europa.eu/en/efsajournal/pub/3263.htm
[11] http://www.efsa.europa.eu/en/efsajournal/pub/3264.htm
[12] http://www.efsa.europa.eu/en/efsajournal/pub/3449.htm