Network on Microbiological Risk Assessment Minutes of the 22nd meeting

Held on 18/19 October 2022 in Parma (with online participation)

(Agreed on 26 October 2022)

Participants

- **Network Representatives of Member States (including EFTA Countries):**

Country	Name
Austria	Monika Matt, Patrick Hyden, Tobias Mösenbacher
Belgium	Lieven De Zutter, Kim Feys, Katrien De Pauw, Elien De Boeck
Bulgaria	Hristo Najdenski
Croatia	Brigita Hengl, Jasenka Petric
Cyprus	Christos Kourtis
Czechia	Ondřej Daniel, Veronika Vlasakova
Denmark	Alessandro Foddai
Estonia	Mati Roasto
Finland	Suvi Joutsen
France	Pauline Kooh, Estelle Chaix
Germany	Anja Buschulte
Greece	Panagiota Gousia, Ioanna Apostolou
Hungary	David Toldi, Zsuzsanna Sréterné Lancz
Ireland	Lisa O'Connor, Mary Lenahan
Italy	Maria Elisabetta De Angelis
Lithuania	Snieguole Sceponaviciene
Malta	Ornella Falcioni
Netherlands	Aarieke de Jong
Poland	Elżbieta Maćkiw
Portugal	Manuela Sol
Romania	Laurentiu Ciupescu
Slovakia	Lubomír Valík
Slovenia	Pavel Pollak
Spain	Antonio Valero
Sweden	Jakob Ottoson, Åsa Svanström
Norway	Danica Grahek-Ogden
Switzerland	Françoise Fridez

- **IPA countries**

Dejan Krnjaic from Serbia

- **Hearing Experts**

Mariel Pikkemaat (for item 1.16)

- **EFSA:**

BIOHAW Unit: Kateryna Chuzhakina, Beatriz Guerra Roman, Michaela Hempen, Ernesto Liebana (chair), Winy Messens, Valentina Rizzi, Mirko Rossi, Eleonora Sarno, Cezara Simon, Pietro Stella

1. Welcome and apologies for absence

The Chair welcomed the participants from 25 Member States, Norway and Switzerland as well as an Observer from Serbia. 14 participants were present in Parma and 26 attended online. No apologies were received.

The chair briefly updated the network about EFSA's reorganisation and the new EFSA Unit on Biological Hazards, Animal Health and Welfare (BIOHAW) with Frank Verdonck as new Head of Unit.

2. Adoption of agenda

The agenda was adopted without changes.

3. Agreement of the minutes of the 21st meeting of the Network on Microbiological Risk Assessment held on 5/6 October 2021, web

The minutes were agreed by written procedure on 26 October 2021 and published on the EFSA website 30 October 2021.[1]

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4. Topics for discussion

1.1. Impact of food associated *Vibrio*-infections in Germany

The participant from Germany presented the background and the current state of knowledge on the occurrence of food-borne *Vibrio* infections in Germany. Furthermore, the possible impact of climate change on this type of infection was discussed.

1.2. Risk-based control of *Campylobacter* spp. in broiler farms and slaughtered flocks to mitigate risk of human campylobacteriosis – A One Health approach

The participant from Denmark showed the practical application of the concepts of: intersectoral surveillance data integration, risk-based control, and One Health; within the Danish Action Plan against *Campylobacter* spp. in broilers and humans. The relative impact of high-risk flocks (originating from high-risk

[1] https://www.efsa.europa.eu/sites/default/files/2021-10/21st-meeting-efsa-network-microbiological-risk-assessment-minutes.pdf

farms) and of flocks cross-contaminated at the slaughterhouse, on the risk of human campylobacteriosis was discussed.[2,3]

Thus, the presentation gave a "proof of concept" for applying data-driven and risk-based control actions along the poultry meat chain, so that the risk of disease in humans can be mitigated accordingly.

1.3. 3 months survey compared to baseline study 2008 (*Campylobacter*)

The participant from Austria provided results from a baseline study on *Campylobacter* in broilers. Neck skin samples in broiler slaughterhouses were taken on a regular basis to verify compliance with Regulation (EU) 2017/1495, the process hygiene criteria for broiler carcasses according to the microbiological criteria (Reg (EU) 2073/2005). In a 3 months survey parallel sampling was performed. The results are compared with the results from the baseline study in 2008, which were published in EFSA Journal 2010; 8(03):1503.

1.4. Environmental monitoring of *Listeria monocytogenes* in wet and open food processing

The participant from Belgian presented results from the Listeria monitoring study. Listeria monocytogenes is an ongoing food safety pathogen. Their persistence in the food processing environment is considered to be an important source of food contamination. This highlights the importance of preventing introduction and persistence in food processing environments. Therefore, environmental sampling is needed to control the pathogen. Drawing risk-based sampling plans, accurate sampling techniques, sampling moments and some practical experiences in wet and open food processing will be discussed.

1.5. Transfer of anisakid allergens to meat by use of fishmeal in feed

The participant from Belgian gave a presentation on anisakid allergens. Several anisakid allergens are known to be highly resistant, and in this way may be transmitted to meat by use of fishmeal as a feed component in livestock. This may expose consumers to anisakid allergens not only in fish, but also in meat. To confirm this hypothesis, a controlled chicken feeding trial using Anisakidae-contaminated feed was conducted. MS/MS-data analysis revealed peptides from 6 different anisakid allergens in the meat and/or blood from the chickens that were fed with Anisakidae-contaminated feed.[4]

1.6. Mould in Fruits, Vegetables, Roots and Tubers

The participant from Sweden presented on moulds, which cause a large majority of spoilage. Some moulds can form toxins, mycotoxins, while others are pure spoilage organisms. Several mould species from toxin-producing and spoilage genera can be found in a specific crop. If, and how much, toxin is formed is influenced by the species and strains of moulds that are present, the type of product they have infected, and external conditions. This presentation provided

[2] https://www.sciencedirect.com/science/article/pii/S2352352221000323
[3] https://www.sciencedirect.com/science/article/pii/S2352352222000147
[4] https://www.sciencedirect.com/science/article/abs/pii/S0889157522005579

mycotoxin content data for citrus fruits, stone fruits, peppers, potatoes, and tomatoes.[5]

1.7. Presence of *Salmonella* Napoli in Switzerland – Analysis Campaign

The participant from Switzerland gave a talk on *Salmonella* Napoli. In recent years there has been an increase in the number of infections with Salmonella Napoli in Switzerland. However, the source of the infection is still unknown. Therefore, several laboratories in different Swiss cantons have carried out a relatively large-scale analysis campaign in 2021 (mainly foodstuffs but also bathing water and waste water) to try to provide some leads on the source and causes of the infection.

2313 samples were analysed and only one waste water sample was positive for Salmonella Napoli. Interestingly this serovar was not detected in the foodstuffs (2062 samples) or in the bathing water (131 samples). The source of the infection is still unknown.

1.8. Prevalence and serotype diversity of *Salmonella* enterica in Estonian meat production chain

The participant from Estonia presented on *Salmonella* enterica subsp. enterica prevalence and serotype diversity at farm, slaughterhouse and meat cutting level in pork, beef and broiler chicken meat production in Estonia in 2016-2020. Additionally, information on trends in Salmonella human serotypes during the same period in Estonia was given as well as Estonian *Salmonella* control program was briefly introduced.[6]

1.9. Multi-country outbreak of monophasic *Salmonella* Typhimurium sequence type 34 linked to chocolate products

The EFSA BIOHAW secretariat presented a Rapid Outbreak Assessment (ROA) on *Salmonella* Typhimurium linked to chocolate products. On 17 February 2022, the United Kingdom (UK) reported a cluster of cases with monophasic *S.* Typhimurium sequence type 34 infection. As of 18 May 2022, 324 cases had been reported in 12 EU/EEA countries and the UK, including two distinct representative strains. Epidemiological investigations suggested specific chocolate products of Brand A, produced by Company A in Processing Plant B in Belgium, as likely vehicles of infection. This outbreak has evolved rapidly, with children most at risk for severe infection. The closure of Plant B and the global recall of all their products have reduced the risk of exposure. However, eight cases cannot be explained by the consumption of chocolate products such as those manufactured at Plant B, suggesting that there may also be other sources of infection.[7]

1.10. Recent and ongoing activities of BIOHAZ Panel

The EFSA BIOHAW secretariat presented the recently published EFSA opinions:

[5] https://www.livsmedelsverket.se/globalassets/publikationsdatabas/rapporter/2022/l-2022-nr-09-risker-med-frukt-gronsaker-och-rotsaker-som-har-moglat.pdf

[6] https://www.mdpi.com/2076-0817/10/12/1622

[7] https://www.efsa.europa.eu/it/supporting/pub/en-7352

- Efficacy and safety of high-pressure processing of food (EFSA-Q-2020-00380);[8]
- Evaluation of the safety and efficacy of lactic acid to reduce microbiological surface contamination on carcasses from kangaroos, wild pigs, goats and sheep.[9]

A new BIOHAZ panel self-task mandate was presented on the persistence of microbiological hazards in food and feed production and processing environments, excluding primary production.[10] Deadline for this mandate is 31 December 2023.

Network participants were asked to share relevant information on the topic, including sector specific guidance documents on environmental monitoring and interventions to remove persisting strains.

19 October 2022

5. Welcome and apologies for absence

The Chair welcomed the participants. No apologies were received. Frank Verdonck, Head of Unit BIOHAW, introduced himself.

6. Topics for discussion

1.11. Prevalence of Toxoplasma gondii in the food chain and natural reservoirs in Slovakia

The participant from Slovakia presented the results of seroprevalence of toxoplasmosis in domestic animals in Slovakia with a particular focus on animal species intended for human consumption (small ruminants, cattle). In addition, prevalence of IgG antibodies in dogs, cats, wildlife animals and some groups of the human population are also given.

1.12. Risk of Monkeypox virus (MPXV) transmission through the handling and consumption of food

The participant from France presented a qualitative risk assessment performed to investigate the probability that MPXV transmission occurs through food during its handling and consumption. The risk assessment used both a "top-down" (the episode monitoring approach) and "bottom-up" (following the agent through the food chain to assess the risk of foodborne transmission to human) approaches (ANSES opinion no 2022-SA-0110).[11]

1.13. Classification of food establishments on a risk basis within the Spanish National Plan for Official Control of the Food Chain

The participant from Spain presented an Opinion that resulted from the assessment of a Guidance whose main objective is to establish a common system for the risk-based assessment and classification of food establishments, setting certain basic criteria of risks, as well as its objective assessment in accordance with standardised criteria. Overall, the criteria used to establish the risk-based classification of food establishments in the Guidance Document are

[8] https://www.efsa.europa.eu/it/efsajournal/pub/7128

[9] https://www.efsa.europa.eu/it/efsajournal/pub/7265

[10] https://open.efsa.europa.eu/questions/EFSA-Q-2022-00217

[11] https://www.anses.fr/fr/system/files/BIORISK2022SA0110.pdf

deemed to be accurate. Other criteria have been suggested for consideration such as the adherence of each establishment to the self-monitoring system and good hygiene and handling practices or correct training of the establishment's employees.[12]

1.14. Antimicrobial resistance distributed by pig farms in Bulgaria

The participant from Bulgaria provided results from a study on antimicrobial resistance in pigs. The prevalence of resistant Escherichia coli strains from swine feces and lagoons was evaluated according to ISO 16654:2001/Amd1:2017. The biochemical characterization and AMR were investigated by Phoenix M50 and the disc diffusion method, according to CLSI and EUCAST. Some isolates showed phenotypic resistance to ampicillin, trimethoprim, trimethoprim/sulfamethoxazole, amoxicillin, tetracycline, chloramphenicol, etc. With the optimized ddPCR protocol, it was possible to detect the presence of pathogenic Yersinia enterocolitica after direct isolation of DNA from swine feces samples found negative for this pathogen by applying classical microbiological methods.

1.15. The EFSA One Health WGS System for foodborne outbreak detection at EU Level

As response to a EC mandate, EFSA has developed the EFSA One Health WGS System that interoperates with the ECDC Molecular Typing system exchanging core genome Multi Locus Sequence Typing (cgMLST) profiles and minimum metadata for foodborne outbreak detection at EU level. The presentation described the system, including its architecture, the users and their relative data visibility, as well as data ownership and intellectual property.

1.16. Ionophore resistance and potential risk of ionophore driven co-selection of clinically relevant antimicrobial resistance in poultry

Mariel Pikkemaat from Wageningen University (NL) presented a report by Wageningen University on the risks of adding ionophores to chicken feed. Ionophores are allowed as an additive to chicken feed since they are effective coccidiostats. However, the research reported in this document shows convincingly that this practice causes antimicrobial resistance, specifically salinomycin resistance, but also co-selects for resistance against other antibiotics. Hence it seems questionable whether prophylactic usage of ionophore coccidiostats is a safe practice.

1.17. Recent and ongoing activities of BIOHAZ Panel

The EFSA BIOHAW secretariat presented recently adopted BIOHAZ Panel opinions (in addition to those presented under 1.10).

Adopted:

- Transmission of antimicrobial resistance (AMR) and zoonotic agents during animal transports[13]

Ongoing:

12 https://www.aesan.gob.es/AECOSAN/docs/documentos/seguridad_alimentaria/evaluacion_riesgos/informes_cc_ingles/CLASSIFICATION_ESTABLISHMENTS_RISK.PDF

13 https://open.efsa.europa.eu/questions/EFSA-Q-2021-00435

- Microbiological safety of aged meat (EFSA-Q-2020-00527)[14] (Deadline 31 December 2022)
- Selftask on microbiological hazards associated with the use of water in post-harvest handling and processing operations of fresh and frozen fruits, vegetables and herbs (EFSA-Q-2021-00374)[15] (Deadline 30 September 2024)

7. Date for next meeting

The next MRA network meeting is planned for autumn 2023. The network members suggested to have an additional web-meeting in spring 2023, if possible.

8. Closure of the meeting

The Chair thanked the speakers and participants for their contributions and closed the meeting.

[14] https://open.efsa.europa.eu/questions/EFSA-Q-2020-00527
[15] https://open.efsa.europa.eu/questions/EFSA-Q-2021-00374