



Food and Agriculture Organization
of the United Nations



World Health
Organization

JOINT FAO/WHO ACTIVITIES ON RISK ASSESSMENT OF MICROBIOLOGICAL HAZARDS IN FOODS

CALL FOR DATA AND EXPERTS ON NON TYPHOIDAL *SALMONELLA* SPP. AND PATHOGENIC *ESCHERICHIA COLI* ASSOCIATED WITH BEEF AND PORK

Deadline: 15 April 2015 (data), 15 May 2015 (experts)

Introduction

Salmonellosis is one of the most frequently reported foodborne diseases. Risk analyses on *Salmonella* spp. have been addressed for several food commodities, including eggs, broiler chickens, powdered infant formula and bivalve molluscs, at the international and national level. Epidemiological evidence, however, indicates that beef and pork are also important foodborne sources of human exposure to *Salmonella*. In addition, there have been outbreaks of other pathogens in meat products, such as Verotoxigenic *Escherichia coli* (VTEC) in beef. This has highlighted the need for control of these microbiological hazards in meat products. Given the nature and sources of these hazards, a whole food chain approach to their control is required. Control of these hazards in beef and pork are already being considered by national authorities in a number of countries and Codex has now embarked on developing international guidance in this area.

In November 2013, the 45th Session of the Codex Committee on Food Hygiene (CCFH) agreed to develop Draft Guidelines for the Control of Nontyphoidal *Salmonella* spp. in Beef and Pork Meat. To facilitate this work, the 46th Session of the Committee, held in November 2014¹, requested that FAO and WHO provide the Committee with scientific advice on this matter, in particular:

- a. To conduct a systematic literature review to ensure that any relevant measures for control of *Salmonella* in beef and pork are identified. The literature review should:
 - include, but not be limited to, a review of the publicly available literature, guidelines from competent authorities (e.g. compliance guidelines, sanitary dressing procedures) and publicly available industry practices;
 - cover mitigation/intervention measures from the primary production stage to consumption;
 - identify mitigation/intervention measures that are effective at reducing *Salmonella* and highlight those demonstrated effective in commercial settings;
 - specify the point(s) where the mitigation/intervention measures has been documented as effective; and

¹ Report available at: http://www.codexalimentarius.org/download/report/908/REP15_FHe.pdf

- specify if the mitigation/intervention measures are hazard-based or risk-based.
- b. To convene an Expert Meeting to review the technical basis of the mitigation/intervention measures proposed by a CCFH physical working group prior to the 47th Session in November 2015.

The 46th Session also noted that a discussion paper and a project document on VTEC in beef would be submitted for consideration by the 47th Session. As a result, this call for data and experts also covers the issue of pathogenic *E. coli* although the scientific advice on this will only be developed after the work on *Salmonella* is complete.

FAO and WHO want to ensure that all available and relevant information and data are collected, and are issuing an international call for data to raise awareness about data needs and invite all interested parties to provide both organizations with any relevant information/data, particularly that which may not be readily available in the public domain.

CALL FOR DATA

List of data and information requirements

Data and information on the following aspects are requested:

1. Information on approaches and interventions for the control and management of Nontyphoidal *Salmonella* spp. and pathogenic *E. coli*, including VTEC, in beef and pork from primary production (including inputs at the farm level, e.g. animal feed) through processing, packing, storage and retail to consumption. In particular, data on the following is required on:
 - a. The range of prevention and control measures applied for the control of microbial hazards in beef and pork and the basis for the application of those measures. This may include reference to national legislation and regulations and relevant regulatory or industry guidelines.
 - b. The efficacy and effectiveness of any generic control measures (e.g. GHP, HACCP, biosecurity, etc.) and specific interventions (e.g. vaccination, carcasses washes, etc.) on the organisms of concern and the point in the chain at which they are applied.
 - c. Any risk assessments that have been undertaken on the risk associated with Nontyphoidal *Salmonella* and/or pathogenic *E. coli* including any assessment of potential interventions.
 - d. Any other related information.
2. Contact person: Please provide name, title and full contact details of the contact person for follow-up and further details if needed.

In addition, information on the following would also be useful:

3. Prevalence and levels of microbial contamination of beef and pork:
 - a. Information of the types of Nontyphoidal *Salmonella* spp. and pathogenic *E. coli*, including VTEC*, and the prevalence and/or levels of these organisms at specified changes in the food chain.

* For *Salmonella*, please indicate sub-type information, e.g., sero-types, phage-types, types of pulsed-field gel electrophoresis (PFGE), types of multi-locus variable number of tandem repeats analysis (MLVA) and AMR where available. For VTEC, please indicate information on sero-types and virulence genes including subtypes (e.g. eae and vtx 1 or 2, a or b) where available.

- b. Sources and routes of introduction of pathogens of concern.
4. Information on monitoring and inspection systems in place:
- a. Target meat (beef and/or pork)
 - b. Target pathogens (Nontyphoidal *Salmonella* spp., pathogenic *E. coli* including VTEC,)
 - c. Points of monitoring and inspection in the food chain
 - d. Frequency of monitoring/inspection
 - e. Sampling plan and methodology used
 - f. Results of the monitoring/inspection (if target pathogens were detected, range of levels detected)
 - g. Level of the contamination at which a regulatory action is taken, and what kind of regulatory action (rejection or follow up)
 - h. Rejection rate of the commodity (domestic and import/export product)
 - i. Any other related information
5. Epidemiological data on past outbreaks of Nontyphoidal *Salmonella* spp. and pathogenic *E. coli* including VTEC linked to pork and beef:
- a. Whether the outbreak / cases were confirmed or suspected and how this was determined (e.g. laboratory confirmation, epidemiological investigation, etc.)
 - b. Number of cases, hospitalizations and deaths
 - c. Specific health status or risk factors of affected individuals, if any
 - d. Causative foodborne pathogens* and the source of contamination
* For *Salmonella*, please indicate sub-type information, e.g., sero-types, phage-types, types of pulsed-field gel electrophoresis (PFGE), types of multi-locus variable number of tandem repeats analysis (MLVA) and antimicrobial resistance (AMR) where available. For pathogenic *E. coli* including VTEC, please indicate information on sero-types and virulence genes including subtypes (e.g. eae and vtx 1 or 2, a or b) where available..
 - e. Level of pathogen in the implicated meat product, if available.
 - f. Any other related information

Request for relevant information

FAO and WHO are requesting governments, the meat industry, academia, consumer groups, laboratories, health care providers and any other interested organizations and individuals to submit any available data on the specific areas indicated above. These data may be published or unpublished. Reference should be made to related published studies, where applicable.

Confidential and/or unpublished data

FAO and WHO recognize that some of the information and relevant data which is now required may be unpublished or of a confidential nature. With regard to unpublished information and data, this remains the property of the author for subsequent publication by the owner as original material. Unpublished confidential studies that are submitted will be safeguarded in so far as it is possible to do so without compromising the work of FAO and WHO. Specific issues relating to confidentiality should be discussed

directly between the information and data owners and FAO/WHO. For these and other issues please contact FAO and WHO at the contacts provided.

Deadline

Please submit any relevant information (electronic and/or hard copies - electronic submissions are preferred, either via e-mail (if not too large) or on CD ROM), in any official United Nations language (English, French, Spanish, Arabic, Chinese, Russian), and with title and short description of the content in English along with the list of data and information requirements if possible, to the addresses below, by **15 April 2015**.

Data submissions in response to the call for data should be sent to:

Food Safety and Quality Unit
Attention: **Dr Sarah Cahill**
Food and Agriculture Organization of the
United Nations
Viale delle Terme di Caracalla
00153 Rome, Italy
Telephone: + 39 06 5705 3614
Email: jemra@fao.org

an
d Department of Food Safety and Zoonoses
Attention: **Dr Mina Kojima**
World Health Organization
20, avenue Appia
1211 Geneva 27
Switzerland
Telephone: +41 22 791 2920
Email: jemra@who.int

CALL FOR EXPERTS

In addition, FAO and WHO are currently in the process of identifying experts to participate in future work of FAO and WHO in the area of microbiological hazards associated with beef and pork. All applicants should meet the following general criteria:

- Advanced University/College degree in microbiology, food technology, food science, epidemiology, public health or related fields
- Experience in food safety/risk analysis related to microbiological hazards in foods
- At least five years experience in relevant fields, including for example, production and processing control of beef and pork, assessment and application of relevant interventions in this sector, etc.
- Scientific publications in peer-reviewed journals, in particular, relevant publications within the most recent 10 years
- Good knowledge of the English language, both written and oral
- Leadership or invited participation in national or international scientific bodies, committees, and other expert advisory bodies pertinent to the scope of this work

Selection of experts

FAO and WHO place great value on the technical quality and independence of the participating experts as well as on the transparency of its selection process. Both organizations have developed well-defined procedures for selecting experts that promote the excellence and independence of opinions provided.

Applicants' curriculum vitae will be reviewed on the basis of the criteria listed above by a selection panel consisting of three or more individuals including at least two independent, internationally recognized external experts appointed by FAO or WHO. The highly qualified individuals selected from the applicants will be listed in an expert roster that will be used by FAO and WHO to invite experts to the future work in this area.

In selecting experts FAO and WHO will consider, in addition to scientific and technical excellence, diversity and complementarities of scientific backgrounds, and balanced representation from geographic regions, including developing and developed countries, as well as gender. Selected experts may be required to assist in the preparation of background papers.

Even if not invited to this expert meeting, qualified experts will be included on the JEMRA roster for a period of four years for consideration for future JEMRA work. The roster will be published on the FAO and WHO websites together with the eligibility period of each expert. After that time, experts will only be retained on the roster following receipt and positive review of an updated CV.

Appointment of experts

The experts will be invited to contribute only in their individual scientific capacity. An expert will not represent the government of country of which he or she is a citizen, or the institution with which he or she is associated. The experts designated will not receive any remuneration, however, where a physical expert meeting is held, travel costs, subsistence allowance and other related expenses will be the exclusive responsibility of FAO and WHO.

Applications

Interested applicants should submit their curriculum vitae (CV). The CV should include a description of education and work experience and a list of peer reviewed publications relevant to the factors indicated above (please do not include reprints in your submission unless specifically requested at a later date). Applicants must have a good working knowledge of English as correspondence and any future meeting will be in English only.

Before participating in any related activity, the selected experts will be required to declare any potential interests associated with the subjects and substances that will be evaluated through completion of a standard form developed by FAO or WHO. They will be asked to indicate in writing any interest (financial and intellectual) on their part or that of their spouse that may affect their scientific independence as experts, including one or more of the following conditions: employment (past or present) by any commercial enterprise or private or civil sector association; a recipient of research or other study grants from such enterprises or associations; or shareholdings in commercial enterprises active in fields related to food safety. These declarations will have to be completed and evaluated before a formal invitation can be issued. They will be subsequently retained by the Joint Secretariat and a summary of declarations will be included in the report of the work. In addition, a confidentiality undertaking is also to be signed to ensure proper handling of dossiers and proprietary information.

Deadline

Applications should be sent to FAO and WHO by **15th May 2015**. Applications received after that date will be evaluated only if additional expertise is required and the evaluation and selection will follow the same procedure as described.

CV submissions in response to the call for experts should be sent to:

Food Safety and Quality Unit
Attention: **Dr Sarah Cahill**
Food and Agriculture Organization of the
United Nations
Viale delle Terme di Caracalla
00153 Rome, Italy
Telephone: + 39 06 5705 3614
Email: jemra@fao.org

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d Department of Food Safety and Zoonoses
Attention: **Dr Mina Kojima**
World Health Organization
20, avenue Appia
1211 Geneva 27
Switzerland
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