



Food and Agriculture
Organization of the
United Nations



World Health
Organization

FAO/WHO Joint Expert Meeting on Microbial Risk Assessment (JEMRA)

CALL FOR EXPERTS AND DATA ON CONTROLS OF SHIGA TOXIN- PRODUCING *ESCHERICHIA COLI* (STEC) ASSOCIATED WITH MEAT AND DAIRY PRODUCTS

FAO and WHO open call for experts who can contribute in future work of JEMRA in the area of microbiological hazards associated with pre- and post- harvest controls of STEC in foods of animal origin.

FAO and WHO are requesting governments, the meat industry, the dairy industry, academia, consumer groups, laboratories, and any other interested organizations and individuals to submit any available data and Information on approaches and interventions for the control and management of STEC in cattle and other animals through all food chain.

Background

Shiga toxin-producing *Escherichia coli* (STEC) are an important cause of foodborne disease. Infections have been associated with a wide range of symptoms from mild intestinal discomfort to haemolytic uremic syndrome, end-stage renal disease and death. In its report on the global burden of foodborne disease, WHO estimated that foodborne STEC caused more than 1.2 million illnesses, 128 deaths, and nearly 13,000 Disability Adjusted Life Years (DALYs) in 2010¹.

The Codex Committee on Food Hygiene (CCFH) discussed the importance of STEC in foods since its 45th Session². Following a request from the 47th Session³, November 2015, the FAO and WHO published the *Shiga toxin-producing Escherichia coli (STEC) and food: attribution,*

¹ WHO estimates of the global burden of foodborne diseases available at http://www.who.int/foodsafety/areas_work/foodborne-diseases/ferg/en/

² Report of the 45th Session of the CCFH, available at http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-45%252FREP14_FHe.pdf

³ Report of the 47th Session of the CCFH, available at http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-47%252FReport%252FREP16_FHe.pdf

characterization and monitoring report in 2018⁴. This report documents the conclusions and advice of an Expert Group, based on information available at the time, for the following areas related to STEC: the global burden of foodborne disease; hazard identification and characterization; and monitoring, including the status of the analytical methods.

As part of the 50th session of CCFH, November 2018, the FAO updated the committee on a forthcoming report attributing illness caused by STEC to specific foods⁵. Data spanning three geographic regions attributed beef and produce (fruits and vegetables) each accountable for about 30% of all outbreaks for which a specific food source was identified. Other significant sources of STEC linked to foodborne illness outbreaks were dairy products, other unspecified types of meat, and chicken. In addition, the evaluation of internationally published case-control studies reinforced the role of beef as a cause of sporadic cases of STEC illness.

Having identified foods most frequently associated with illness, the Codex Alimentarius Commission (CAC) approved new work at the 42nd Session, July 2019, on the development of guidelines for the control of STEC in beef, raw milk and cheese produced from raw milk, leafy greens and sprouts⁶. To support this work, JEMRA will provide scientific advice on the topic. This call for experts seeks to identify scientists who, in their individual capacity, can contribute to the successful completion of this task. In addition, we are also seeking data on the control of STEC that can inform this advice. Specifically, scientific advice is needed to provide the following:

- 1) A literature review to ensure that relevant measures for pre- and post-harvest control of STEC in animals and foods of animal origin, bovine and other, 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 STEC and highlight those demonstrated effective in commercial settings;
 - specify the point(s) where the mitigation/intervention measures have been documented as effective;
 - indicate if the mitigation/intervention measures are hazard-based or risk-based.
- 2) The content of the advice report will be determined following scientific consensus among experts participating in an in-person consultative meeting.

⁴ FAO/WHO [Food and Agriculture Organization of the United Nations/World Health Organization]. 2018. Shiga toxin-producing *Escherichia coli* (STEC) and food: attribution, characterization, and monitoring: Report. Microbiological Risk Assessment Series No. 31. Rome available at <http://www.fao.org/3/ca0032en/ca0032en.pdf>

⁵ FAO/WHO. 2019. Attributing Illness caused by Shiga toxin-producing *Escherichia coli* (STEC) to specific foods: Report. Microbiological Risk Assessment Series No. 32. Rome available at <http://www.fao.org/3/ca5758en/ca5758en.pdf>

⁶ Report of the 50th Session of the CCFH, available at http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-50%252FReport%252FREP19_FHe.pdf

CALL FOR EXPERTS

The assessment of potential experts will start on: 31 October, 2019

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 pre- and post- harvest controls of STEC in foods of animal origin. All applicants should meet the following general criteria:

- Advanced University/College degree in veterinary medicine, 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 of experience in relevant fields, including for example, production and processing control for beef and dairy, 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;
- Evidence of 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

Applicants' curricula vitae (CV) will be reviewed based on the criteria listed above by a selection panel consisting of three or more individuals appointed by FAO or WHO. All qualified individuals will be notified and added to the JEMRA roster of experts that is valid for future work until 2022. A small number of accomplished individuals will be invited to participate in the proposed upcoming meeting on STEC control. Selected experts may be required to assist in the preparation of background papers and report drafts (in English). 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. Unsuccessful candidates are not routinely notified.

Appointment of experts

Selected experts will be invited to contribute to the meeting 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 CV. The CV should include a description of education, relevant work experience, evidence of national or international expertise on the topic, including 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 meetings will be in English only.

Before participating in any related activity, all the selected experts will be required to declare any potential interests associated with the subjects and substances that will be evaluated. Experts will be asked to indicate, in writing, all interests (financial and intellectual) on their part or that of their spouse that may affect, or be perceived to 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; receipt of research or other study grants from such enterprises or associations; shareholdings in commercial enterprises active in fields related to food safety. Identification of an interest does not necessarily indicate a conflict nor automatically exclude an individual from participation. For example, as expert, it is expected that many, if not all, will be employed in some capacity related to the subject matter. These declarations must be completed and evaluated before a formal invitation will be issued. Declaration documents will be retained by the Joint Secretariat and a summary of declarations will be included in the report of the work. In addition, a confidentiality undertaking must also be completed prior to appointment to ensure proper handling of dossiers and proprietary information.

Deadline

Please submit nominations and CVs at your earliest convenience, but no later than **31 October 2019**.

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

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CALL FOR DATA

Deadline: 31 January, 2020

FAO and WHO desire that all relevant information and data about STEC control are considered in their assessment and are thus issuing this international call to raise awareness about data needs and invite all interested parties to provide any relevant information/data, particularly data that may not be readily available in the public domain.

Objectives

The data will serve as inputs to the development of scientific advice on the control of STEC. This call is supplemental to the earlier calls issued in 2015⁷ and 2016⁸, and is being issued in response to the identification of the new specific interest to the CCFH related to control measures.

Previous calls for STEC related data from 2015 and 2016 resulted in a great majority of responses coming from North America and Europe, and less from Asia, Latin America, Near East and Africa. Information from additional regions is desirable in order to obtain a global perspective.

Request for relevant information

FAO and WHO are requesting governments, the meat industry, the dairy industry, academia, consumer groups, laboratories, 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.

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 STEC in cattle and other animals 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 STEC in cattle and other reservoir species, and in meat and dairy products 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, other regulatory guidelines, etc.) and specific interventions (e.g. vaccination, carcasses washes, etc.) on STEC and the point in the chain at which they are applied.
 - c) Any risk assessments that undertaken on the risk associated with STEC, including any assessment of potential interventions for their control in meat and dairy products throughout the food chain.
 - d) Any other related information.

⁷ <http://www.fao.org/3/a-bl019e.pdf>

⁸ <http://www.fao.org/3/a-br569e.pdf>

- 2) Prevalence and magnitude of microbial contamination of herds and flocks of live animals and animal products:
 - a) Information of the serotypes and virulence profiles of STEC occurring the pre-and post-harvest food production environment, and the prevalence and/or levels of these organisms at specified changes in the food chain.
- 3) Applicability of control measures designed and validated for STEC serotype O157 to be used for non-O157 STEC.
- 4) Sources and routes of introduction of pathogens of concern.

Data provider: Please provide name, title and full contact details of the contact person for follow-up and further details if needed.

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 electronically either via e-mail (if not too large) or on a USB stick, in any official United Nations language (English, French, Spanish, Arabic, Chinese, Russian), and with title and short description of the content in English, to the addresses below at your earliest convenience, but no later than **31 January 2020**.

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

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