



**JOINT FAO/WHO FOOD STANDARDS PROGRAMME  
CODEX COMMITTEE ON FOOD HYGIENE  
Fifty-first Session**

**Cleveland, Ohio, United States of America, 4 - 8 November 2019**

**PROJECT DOCUMENT (REVISED)**

**Guidelines for the Safe Use and Reuse of Water in Food Production**

**1. The purposes and scope of the Standard**

The purpose and scope of this document is to elaborate Guidelines for the safe sourcing, use and reuse of water in direct and indirect contact with food across the food chain (primary production and processing) by applying the principle of 'fit for purpose' using a risk-based approach.

**2. Its relevance and timeliness**

In a food business operation, water can be used as an ingredient, to wash food or clean food at contact surfaces, and in many other applications where there is potential for contact between the water and the food. In addition, there are many other applications where there is no intended or expected contact of the water with food (e.g. in personal water use applications and fire control). In all situations, water use should be part of an operation's prerequisite hygiene and HACCP systems.

The requirements for water quality use along the food chain must be considered in context, taking into account the purpose of the water use, hazards that may be present in the water and the need to be controlled to minimize the potential for contamination of food, when used as intended.

Water can be a vector to transmit pathogens or other contaminants from a single food product specimen to a large number of products, thus increasing the number of people exposed and its potential health impact. Therefore, the safest option in food production might be the use of water of potable or drinking water quality. However, this is often not a sustainable, feasible, practical or responsible solution and other types of water could be fit for some purposes or can be made fit for use, provided its intended use does not compromise the safety of the food for the consumer.

The Codex Committee on Food Hygiene (CCFH) has discussed the issue of water since its 30<sup>th</sup> session (REP ALINORM 99/13)<sup>1</sup> where a working paper with guidelines for the hygienic recycling of processing water in food plants was circulated to members. Although a proposed draft Guidelines were elaborated for comment at Step 3, CCFH36 (ALINORM 04/27/13)<sup>2</sup> agreed to discontinue this work due to the heavy workload in the agenda of the Committee at that time. The issue was again discussed at CCFH46 (REP15/FH)<sup>3</sup>, as an important topic on the Revision of the General Principles of Food Hygiene (CXC 1-1969) and its HACCP annex. CCFH47 then agreed that water was an important issue to be addressed (REP16/FH)<sup>4</sup> and therefore requested the Food and Agriculture Organization (FAO) and the World Health Organization (WHO), to provide scientific advice to help clarify the use of clean, potable and other types of water in the General Principles of Food Hygiene and other hygiene texts.

<sup>1</sup> Report of the 30<sup>th</sup> Session of the CCFH available: [http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-30%252Fal99\\_13e.pdf](http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-30%252Fal99_13e.pdf)

<sup>2</sup> Report of the 36<sup>th</sup> Session of the CCFH available: [http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-36%252Fal04\\_13e.pdf](http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-36%252Fal04_13e.pdf)

<sup>3</sup> Report of the 46<sup>th</sup> Session of the CCFH available: [http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-46%252FREP15\\_FHe.pdf](http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-46%252FREP15_FHe.pdf)

<sup>4</sup> Report of the 47<sup>th</sup> Session of the CCFH available: [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](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)

The Joint FAO/WHO Expert Meeting on the Safety and Quality of Water Used in Food Production and Processing took place in May 2018. At CCFH 48 (REP17/FH)<sup>5</sup>, the representative of FAO reported the preliminary findings of the meeting, highlighting that the use of water is diverse and complex and that “fit for purpose” water should be determined by a risk-based approach.

There is a need in Codex documents for a risk-based approach to safe water and reuse. Rather than focusing of the use of potable water or other quality types (e.g. clean water), a risk-based approach and assessment of the fitness of the water for the purpose intended should be articulated.

Risk management plans addressing food safety and water use or reuse have to consider many factors in their development and implementation. Water reuse is considered a priority as this is becoming an emerging issue in industry due to increasing requirements for and costs of water discharge and the acceptability of the products produced for global trade.

Although current Codex documents provide guidance on the safe use of water, there is a need to develop practical guidance and tools to help FBOs understand the risks and potential interventions that are available as well as identifying other overarching issues that are required for defining fit-for-purpose water.

### 3. The main aspects to be covered

The projected format will follow the *General Principles of Food Hygiene* (CXC 1-1969). The proposed structure is as follows;

- General guidance document on key elements, including guidance for determining appropriate and fit for purpose microbiological criteria for pathogens (bacteria, viruses, parasites) and definitions, relevant for safe water sourcing, use and reuse as part of a food safety management program in food production.
- Annex 1: Risk based sector-specific potential intervention strategies for water sourcing, use and reuse in the food chain (e.g. from primary production to retail), examples and/or practical case studies for determining appropriate and fit for purpose microbiological criteria (bacteria, viruses, parasites) and examples of the decision support system (DSS) tools such as Decision trees (DT) to determine the water quality needed for the specific intended purpose in fresh produce
- Annex 2: Risk based sector-specific potential intervention strategies for water sourcing, use and reuse in the food chain (e.g. primary production to retail), examples and/or practical case studies for determining appropriate and fit for purpose microbiological criteria (bacteria, viruses, parasites) and examples of the decision support system (DSS) tools such as Decision trees (DT) to determine the water quality needed for the specific intended purpose in the fishery sector
- Annex 3: Risk based sector-specific potential intervention strategies for water sourcing, use and reuse in the food chain (e.g. harvesting to manufacturing and processing), examples and/or practical case studies for determining appropriate and fit for purpose microbiological criteria (bacteria, viruses, parasites) and examples of the decision support system (DSS) tools such as Decision trees (DT) to determine the water quality needed for the specific intended purpose in the dairy sector

### 4. An assessment against the *Criteria for establishment of work priorities*

The Guidelines need to be developed in order to meet the general criterion: Consumer protection from the point of view of health, food safety, ensuring fair practices in the food trade and taking into account the identified needs of developing countries.

The proposed work is directed primarily at establishing Guidelines for safe use and reuse of water in direct or indirect contact with food across the food chain including its sourcing, by applying the principle of ‘fit for purpose’ under a risk-based approach.

The proposed work directly relates to several Codex strategic goals from the Codex Strategic Plan: 2020-2025.

- Strategic Goal 1: Address current, emerging and critical issues in a timely manner

These Guidelines would establish a new Codex standard in response to needs identified by Members and in response to current factors that affect food safety and fair practices in the food trade. It will provide

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<sup>5</sup> Report of the 48<sup>th</sup> Session of the CCFH available: [http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-48%252FReport%252FFinal%252FREP17\\_FHe.pdf](http://www.fao.org/fao-who-codexalimentarius/sh-proxy/en/?lnk=1&url=https%253A%252F%252Fworkspace.fao.org%252Fsites%252Fcodex%252FMeetings%252FCX-712-48%252FReport%252FFinal%252FREP17_FHe.pdf)

practical guidance on “fit for purpose” approach based on risk analysis for sourcing, use and reuse of water in the food chain.

- Strategic Goal 2: Develop standards based on science and Codex risk-analysis principle

The development of the Guidelines will be consistent with the use of scientific advice and risk analysis principles in the articulation of the control measures. Scientific advice from the FAO/WHO expert bodies, particularly JEMRA, and scientific input from all countries will be solicited.

#### **5. Information on the relation between the proposal and other existing Codex documents**

The proposed Guidelines will follow the example of the overarching Codex *General Principles of Food* (CXC 1-1969), *Code of Hygienic Practice for Fresh Fruits and Vegetables* (CXC 53-2003) and *Code of Practice for Fish and Fishery Products* (CXC 52-2003), *Code of Hygienic Practice for Milk and Milk Products* (CXC 57-2004) all of which provide current guidance on the safety requirements for use of water when handling food, particularly on the use of potable water or clean water for agriculture, food handling and processing, water reuse and for the elaboration of ice. It is expected that reference to the proposed guidelines will also be made in the aforementioned texts.

#### **6. Identification of any requirement for and availability of expert scientific advice**

There may be a need for additional scientific advice from FAO/WHO’s expert body JEMRA to establish the general guidance for determining appropriate and fit for purpose microbiological criteria for pathogens (bacteria, viruses, parasites) in water sourcing, use and reuse on food production.

JEMRA’s advice would also be needed for the three prioritized sectors:

- Sector-specific examples and case studies for determining appropriate and fit for purpose microbiological criteria for pathogens (bacteria, viruses, parasites) in water sourcing, use and reuse in fresh produce from primary production to retail
- Sector-specific examples and case studies for determining appropriate and fit for purpose microbiological criteria for pathogens (bacteria, viruses, parasites) in water sourcing, use and reuse in fish and fishery products (e.g. crustaceans, molluscs and cephalopods) from primary production to retail.
- Sector-specific examples and case studies for determining appropriate and fit for purpose microbiological criteria for pathogens (bacteria, viruses, parasites) in water sourcing, use and reuse in dairy sector from harvest, to manufacturing and processing.

Finally, the Committee may choose to ask JEMRA to provide practical guidance and revise the examples when using the decision tools described in the review.

#### **7. Identification of any need for technical input to the standard from external bodies so that this can be planned for**

None identified so far.

#### **8. The proposed time-line for completion of the new work, including the start date, the proposed date for adoption at Step 5, and the proposed date for adoption by the Commission**

A five-year timeline is proposed for the completion of the Guidelines with adoption at Step 5 by CAC45 in 2022 and final adoption in 2023 by CAC46 as regards the main document and Annexes 1 and 2, and with adoption at Step 5 by CAC46 in 2023 and final adoption in 2024 by CAC47 as regards the Annex 3.