



## JOINT FAO/WHO FOOD STANDARDS PROGRAMME

### CODEX COMMITTEE ON CONTAMINANTS IN FOODS

#### 16<sup>th</sup> Session

18-21 April 2023 (physical plenary meeting)

26 April 2023 (virtual report adoption)

#### MATTERS OF INTEREST ARISING FROM FAO AND WHO INCLUDING JECFA

(Prepared by the Joint FAO/WHO JECFA Secretariats)

1. This document provides information on FAO and WHO activities in the area of provision of scientific advice to Codex, other United Nations (UN) agencies and FAO and WHO Member countries which are of interest to the Codex Committee on Contaminants in Foods (CCCF) and provides an update since the last session of the Committee.

#### *Joint FAO/WHO Expert Committee on Food Additives*

2. Since the last session of CCCF, two meetings of the Joint FAO/WHO Expert Committee on Food Additives (i.e. JECFA94 and JECFA95) have been convened in a virtual format. These meetings addressed residues of veterinary drugs and food additives.

3. All available full reports and the detailed monographs will be accessible at the relevant FAO and WHO sites:

- FAO: <http://www.fao.org/food-safety/resources/publications/en/>
- WHO: [https://www.who.int/groups/joint-fao-who-expert-committee-on-food-additives-\(jecfa\)/publications](https://www.who.int/groups/joint-fao-who-expert-committee-on-food-additives-(jecfa)/publications)

4. Future meetings:

JECFA96 is scheduled for 27 June – 6 July 2023. The meeting is dedicated to the evaluation of a number of food additives.

JECFA97 is scheduled for 31 October – 10 November July 2023. The meeting is dedicated to the evaluation of a number of food additives.

The call for data and draft agenda for JECFA96 and JECFA97 are available on the respective FAO and WHO websites:

- FAO: <https://www.fao.org/food-safety/scientific-advice/calls-for-data-and-experts-expert-rosters/en/>
- WHO: [https://www.who.int/groups/joint-fao-who-expert-committee-on-food-additives-\(jecfa\)](https://www.who.int/groups/joint-fao-who-expert-committee-on-food-additives-(jecfa))

#### *WHO work on dioxin and dioxin-like compounds*

- On 17 to 21 October 2022 WHO held an ad-hoc expert consultation in Lisbon, Portugal during which the 2005 WHO toxic equivalency factors (TEFs) for dioxin-like compounds, including some polychlorinated biphenyls (PCBs), were re-evaluated.
- There was consensus among the invited experts that the updated REP database indicated a need to re-evaluate the 2005 WHO TEF values for dioxins, furans, and dioxin-like PCBs. It was furthermore decided that the Bayesian method should be applied to validate the REP database which resulted in higher confidence and certainty in the outcome of the 2022 expert consultation.

- The outcome and details of this expert consultation will be published in a peer-reviewed paper in first half of 2023. What can be revealed at this stage is that the WHO experts concluded that the selection of dioxin-like compounds at the 2005 WHO meeting is at present still relevant and needed to be revisited for possible changes in TEF values. The use of new data in combination with the Bayesian approach resulted in an update of almost all 2022 WHO TEFs values when compared to the 2005 list of TEF values. If the combined changes in TEFs are viewed in a risk assessment concept, it can be concluded that this would include a moderate reduction of total dioxin-like toxic equivalencies (TEQs) for chlorinated dioxins, dibenzofurans, and PCBs.

#### ***Requests for scientific advice***

5. Both organizations continue to prioritise jointly the requests for scientific advice taking into consideration the criteria proposed by Codex as well as the requests for advice from Member Countries and the availability of resources.
6. In scheduling the JECFA meetings and developing the agenda, the Joint FAO/WHO Secretariat has to take into account the priorities requested by the Committees on Food Additives (CCFA), Contaminants in Foods (CCCF) and Residues of Veterinary Drugs in Foods (CCRVDF), and occasionally other committees (e.g. Committee on Fats and Oils (CCFO)). Due to the increasing requests for scientific advice to JECFA, not all requests can be addressed in the subsequent meeting.
7. To facilitate provision of extra-budgetary resources for scientific advice activities, please contact Dr Markus Lipp, FAO Food Safety and Quality Unit ([jecfa@fao.org](mailto:jecfa@fao.org)) and Dr Moez Sanaa Department of Nutrient and Food Safety, WHO ([jecfa@who.int](mailto:jecfa@who.int)).

#### ***Global Food Consumption Databases and ongoing activities to support countries to generate and to use data for risk analysis purposes***

8. Reliable information on food consumption, collected at individual level, is needed to estimate dietary exposure to chemicals and biological agents in the general population and in vulnerable population groups. To address the issue of insufficient access to such data, FAO and WHO have continued the work on the two following tools (initiated in 2014), to develop global food consumption databases.
9. The FAO/WHO Global Individual Food Consumption Data Tool (FAO/WHO GIFT)<sup>1</sup> is currently sharing 36 datasets (including 11 nationwide datasets) and aims to add 43 additional datasets as soon as possible. The database provides not only access to all microdata but also provides useful food-based statistics in the field of nutrition and food safety. FAO/WHO GIFT utilizes FoodEx2 as categorization tool, which has been upgraded for use at global level as the result of a collaboration between FAO, WHO and the European Food Safety Authority (EFSA). FAO/WHO GIFT also provides an up-to-date global inventory of individual quantitative food consumption surveys conducted, planned and ongoing, with detailed information on over 302 identified studies. The platform is available online.
10. A recently published report, co-published by FAO and Intake Center of dietary assessment, details the relevance and need for dietary data Low- and Medium-Income Countries and is available online "Global Trends in the Availability of Dietary Data in Low and Middle-Income Countries."<sup>2</sup>
11. CIFOcOss (FAO/WHO Chronic Individual Food Consumption Data summary statistics) contains in 2023 the summary statistics of 68 datasets containing at least two days of consumptions and is regularly updated. These data on food consumption (CIFOcOss) and food contamination (GEMS/Food contaminants) are available on the same platform and offer the possibility to use a harmonized food classification/description system (FoodEx2).
12. The GEMS/Food database continues to actively support the work of CCCF by supporting several electronic working groups (EWGs) in the collection and analysis of global food contamination data to derive recommendations for maximum levels (MLs).
13. The 6th International Conference on Total Diet Studies was organized in October 2022 by WHO and the German Federal Institute for Risk Assessment (BfR) following a hybrid modality. The conference promoted experience and expertise sharing about dietary exposure assessment methodologies and was preceded by a hands-on online tutorial.

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<sup>1</sup> <https://www.fao.org/gift-individual-food-consumption/en/>

<sup>2</sup> <https://www.fao.org/3/cc1351en/cc1351en.pdf>

**FAO's publication on Food Safety Foresight**

14. The FAO publication, "Thinking about the future of food safety – A foresight report,"<sup>3</sup> discusses some of the most important emerging issues in food and agriculture with a focus on food safety implications, including climate change, changing consumer behaviour and food consumption patterns, new food sources and food production systems (namely edible insects, jellyfish, seaweed, plant-based alternatives, and cell-based food production), technological innovations and scientific advances, microbiome science, circular economy, and food fraud.

**Other issues of potential interest to the Committee**Update from FAOFood safety and food aid

15. FAO continues to collaborate with the World Food Programme (WFP), United Nations Children's Fund (UNICEF), Doctors without Borders and the U.S. Agency for International Development (USAID) to develop a roadmap to manage the specific risks food aid agencies are facing in ensuring safe and nutritious foods for humanitarian aid, taking into account food security, sustainability, and nutrition. FAO is also providing Risk assessment advice to these agencies on selected contaminants (e.g. on tropane alkaloids), as previously reported, and others.

FAO's work on bivalve mollusc monitoring

16. International trade has been the main driving factor for the rapid growth in the production of bivalve molluscs during the last six decades. However, only a very limited number of countries have effective monitoring programmes for bivalve molluscs. In this regard, the need for developing international guidance for implementation of bivalve mollusc sanitation programmes was addressed by FAO and WHO through the development of the Joint FAO-WHO Technical guidance for the development of the growing area aspects of Bivalve Mollusc Sanitation Programmes, recently updated by FAO and the FAO Reference Centre for Bivalve Sanitation, the United Kingdom Centre for Environment Fisheries and Aquaculture Science (Cefas), updated the content and the second edition is available online in English, Spanish<sup>4</sup> and French<sup>5</sup>.
17. The guidance also serves as the basis for developing a three-module e-learning course on bivalve sanitation, jointly developed by FAO and Cefas targeting policymakers, development practitioners and programme managers, sectoral specialists and researchers, bivalve farmers, trainers, and extension agents. The first two modules are available online: "Growing area risk profile"<sup>7</sup> and "Growing area assessment and review"<sup>6</sup>. Versions in other languages are being developed. The French version of the first module is available online<sup>7</sup>.
18. Over the last three years, FAO in collaboration with its Reference Centre for Bivalve Mollusc Sanitation, Cefas<sup>8</sup>, has delivered a number of capacity building activities for the provision of guidance on relevant laboratory protocols, accreditation and use of methods for bivalve mollusc testing. Annual activities can be found in yearly reports<sup>9</sup>.

Early warning systems for harmful algal blooms (HAB)

19. HABs have a significant impact on food safety and security due to contamination or mass mortality of aquatic organisms. Having forecast or early warning systems could help mitigate the effects of HABs and reduce the occurrence of HAB events. Surveillance systems have been developed to monitor HABs in many countries. However, the lead time or the type of data collected may not be sufficient to effectively take action for food safety management measures or other purposes, such as transferring aquaculture products to other areas. In this regard, FAO is leading the development of a Joint FAO-IAEA-IOC Technical Guidance for the Implementation of Early Warning Systems for HABs. The document will guide competent authorities and relevant institutions involved in consumer protection or environmental monitoring to implement early warning systems for HABs in specific areas that may affect food safety or food security, and it will be published in 2023.

<sup>3</sup> <https://www.fao.org/documents/card/en/c/cb8667en>

<sup>4</sup> English version <https://fao.org/documents/card/en/c/cb5072en/> and Spanish version <https://fao.org/publications/card/es/c/CB5072ES/>

<sup>5</sup> <https://doi.org/10.4060/cb5072fr>

<sup>6</sup> <https://elearning.fao.org/course/view.php?id=629>

<sup>7</sup> [Cours : Contrôle sanitaire des mollusques bivalves: profil de risques des zones de production conchylicole \(fao.org\)](https://www.fao.org/courses/view.php?id=629)

<sup>8</sup> FAO Reference centre work programmes and annual reports: <https://www.cefas.co.uk/icoe/seafood-safety/designations/fao-reference-centre-for-bivalve-mollusc-sanitation/fao-reference-centre-work-programmes-and-annual-reports/>

<sup>9</sup> [FAO Reference Centre work programmes and annual reports - Cefas \(Centre for Environment, Fisheries and Aquaculture Science\)](https://www.cefas.co.uk/icoe/seafood-safety/designations/fao-reference-centre-for-bivalve-mollusc-sanitation/fao-reference-centre-work-programmes-and-annual-reports/)

20. In addition, WHO published 'Toxic cyanobacteria in water - Second edition'<sup>10</sup> in 2021, which includes information that may be useful for the development of the planned guidance, such as occurrence, assessment, and management of waterbodies for aquaculture (section 5.3) and the alert level frameworks developed for drinking-water and recreational water (sections 5.1.2.2 and 5.2.3.2, respectively). An alert level framework enables early-warning and short-term management responses in waterbodies. The alert level framework primarily uses levels of cyanobacterial biomass to trigger responses when biomass reaches levels at which concentrations exceeding cyanotoxin alert values can no longer be excluded.

#### Microplastics

21. Considering that fisheries and aquaculture products are not the only contributors to the dietary exposure of microplastics, the 17th Session of the FAO Committee on Fisheries (COFI) Sub-Committee on Fish Trade requested FAO to carry out an exposure assessment to include other relevant food commodities. In this regard, FAO developed a background document compiling information on the occurrence of microplastics in all commodities, microplastic contamination along food value chains, plastic migration from food contact materials and packaging, and a review of the existing literature on the toxicity of the most common plastic monomers, polymers, and additives. The report, titled "Microplastics in food commodities" was consolidated during an expert meeting held in January 2022 and is available online<sup>11</sup>. The report set up the basis for risk assessment exercises and provides information that can be used for the formulation of risk management options.

#### Risk Benefits of Fish consumption

22. New evidence has become available regarding the risks and benefits of fish consumption. For this reason, FAO and WHO are currently making preparations to convene an expert consultation to review the new evidence and update the conclusions and recommendations of the 2010 report<sup>12</sup> as needed. The expert consultation will be held in October 2023. The consultation will draw a number of conclusions on the health benefits and risks associated with fish consumption and recommend a series of steps that Members should take to evaluate and manage them better, more effectively communicating these risks and benefits to their citizens. It will also set a framework for assessing the net health benefits or risks of fish consumption, providing guidance to the Codex Alimentarius Commission in managing risks, taking into account the existing data on the benefits of eating fisheries and aquaculture products.

#### Seaweed and food safety

23. Increased cultivation and utilisation of seaweed are expected to be essential pillars of sustainable food security and become an integral part of the aquatic economy shortly. Many factors can affect the presence of hazards in seaweed. However, legislation and guidance documents on seaweed production and utilisation are generally lacking. In this regard, FAO and WHO developed a background document identifying food safety hazards linked to the consumption of seaweed and aquatic plants, which can serve as a basis for undertaking further work in this area.
24. The 35th Session of the Codex Committee on Fish and Fishery Products (CCFFP35, 2021) agreed on considering additional work in the area, as presented by FAO and WHO and based on the background document, to develop relevant Codex guidance. The document, titled Report of the expert meeting on food safety for seaweed – Current status and future perspectives was consolidated during an expert meeting held in October 2021 and is available online<sup>13</sup>.

#### FAO Strategic Priorities for Food Safety within the FAO Strategic Framework 2022-2031

25. Following the request of the 27th session of the FAO Committee on Agriculture (COAG), and taking into account the global strategic context, FAO developed a set of strategic priorities for its work on food safety while maintaining the vision to provide "Safe food for all people at all times" and the mission "To support Members in continuing to improve food safety at all levels by providing scientific advice and strengthening their food safety capacities for efficient, inclusive, resilient and sustainable agrifood systems."

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<sup>10</sup> <https://www.who.int/publications/m/item/toxic-cyanobacteria-in-water---second-edition>

<sup>11</sup> [Microplastics in food commodities \(fao.org\)](#)

<sup>12</sup> [Report of the Joint FAO/WHO Expert Consultation on the Risks and Benefits of Fish Consumption. Rome, 25-29 January 2010](#)

<sup>13</sup> <https://www.fao.org/3/cc0846en/cc0846en.pdf>

26. These strategic priorities are articulated around four Strategic Outcomes that result from an iterative consultative process led by FAO with its Members and international partner organizations, including, notably, WHO. FAO and WHO have been working for many decades through a longstanding partnership to implement the Joint FAO/WHO Food Standards Programme (Codex Alimentarius), provide scientific advice, strengthen the capacities of FAO Members for a better participation in standard-setting processes of Codex Alimentarius, and for strengthening their national food control systems. During the development of the FAO Food Safety Priorities and the WHO Global Food Safety Strategy, FAO and WHO maintained a standing and rigorous information sharing and discussion mechanism. Both organizations have committed to plan the development of a joint framework for implementation, following the endorsement of the respective strategic directions.
27. FAO expects the Strategic Priorities for Food Safety to act as an instrument that will spur investments and secure adequate human and financial resources for FAO to successfully implement its food safety programme and to provide international guidance, policy and advocacy for policy-makers. These strategic priorities encourage a more consistent integration of food safety in the development of sustainable and inclusive agrifood systems, food security and nutrition policies and agriculture development strategies.

Update from WHO

28. Microplastic in the environment is an emerging contaminant that has generated intense public concern, questions to WHO from Member States and recurring queries from the media. Questions have been asked about the human health impacts of the exposure to microplastic particles, from the polymers themselves, to the monomers as well as additives used to make the plastic material, adsorbed chemical contaminants and associated biofilms.
29. Recognizing this, WHO has reviewed the state of evidence on microplastic in drinking-water and published a report assessing the risks to human health in August 2019<sup>14</sup>. To continue WHO's effort to assess the potential health risks associated with exposure to microplastic, a project aiming at widening the scope of the assessment from a drinking-water focus to the environment, including exposure via food, water and air has been undertaken. Working with a group of international experts WHO has assessed human health risks arising from exposure to microplastic particles from the environment, identified research needs and outlined the scope of future work needed on microplastic particles. A virtual expert consultation was held in March 2022 and a final report was adopted by the working group. The report was published in August 2022<sup>15</sup>.

WHO Global Strategy for Food Safety

30. The WHO Global Strategy for Food Safety 2022-2030 was adopted by the WHA75 in May 2022. It updates the last strategy in order to address current and emerging challenges, incorporate new technologies, and include innovative approaches for strengthening national food safety systems. This request was made by Member States in recognition that food safety remains a public health priority with a critical role in the achievement of the 2030 agenda for sustainable development. In developing this strategy WHO has had the support from the Technical Advisory Group on Food Safety: Safer Food for Better Health, consulted widely with scientific experts, with WHO regional advisors in food safety, international partners such as FAO and OIE, Member States, and public consultation. Existing regional food safety action plans and food safety strategies were also taken into account, as well as the recommendations and guidelines of the Codex Alimentarius and the FAO food safety priorities. The WHO Global Strategy for Food Safety has been developed to guide and support Member States in their efforts to prioritize, plan, implement, monitor, and regularly evaluate actions towards the reduction of the burden of foodborne diseases by continuously strengthening food safety systems and promoting global cooperation. WHO is now working to support Member States in the implementation of the strategy in collaboration with FAO, International Finance Corporation-World Bank (IFC-WB), Technical Advisory Group (TAG) members and other partners. The implementation will be reported to the World Health Assembly (WHA) every two years until 2030.

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<sup>14</sup> <https://apps.who.int/iris/handle/10665/326499>

<sup>15</sup> WHO 2022 Report. Dietary and inhalation. exposure to nano- and microplastic particles and potential implications for human health. <https://www.who.int/publications/i/item/9789240054608>

Burden of foodborne diseases

31. WHO advances a process to estimate the global, regional and national burden of foodborne diseases given a new WHO mandate under the resolution WHA73.5 and under the support provided by “Foodborne Disease Burden Epidemiology Reference Group (FERG)”<sup>16</sup>. Four expert meetings were conducted to date in 2021 and 2022 to determine the overall methodological framework, a list of food hazards and its associated health states for inclusions in the next update, and to collect required data primarily through systematic reviews.<sup>17</sup> WHO envisions to report national estimates and will establish a process for WHO Member States to engage in a dialogue on the subject through country consultation and country portal.
32. Three global indicators and targets were included in the WHO global strategy for to measure the impact of food safety activities, namely: 1) 40% reduction in the global average on foodborne diarrhoeal disease incidence estimated per 100 000 population, 2) 100% of countries with at least 80% capacity for multisectoral collaboration mechanism for food safety events, and 3) global average capacity score 3.5 for national surveillance of foodborne diseases and contamination. Based on the FERG’s methodology to estimate the health outcomes, WHO plans to develop the impact measurement framework to measure impacts made through food safety actions at the global level.
33. WHO published in June 2021 a new guidance entitled, “Estimating the burden of foodborne diseases: A practical handbook for countries”, aiming to help Member States assess causes, magnitude, and distribution of foodborne diseases through the estimation of the public health burden of foodborne diseases at the national level.<sup>18</sup> Besides the executive summaries made available in all 6 UN languages, presentation modules have been made available in all 6 UN languages in 2022. WHO is establishing a programme to support countries to strengthen national capacity towards estimating the burden of foodborne diseases.

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<sup>16</sup> [https://www.who.int/groups/foodborne-disease-burden-epidemiology-reference-group-\(ferg\)](https://www.who.int/groups/foodborne-disease-burden-epidemiology-reference-group-(ferg))

<sup>17</sup> <https://www.who.int/news-room/articles-detail/call-for-expressions-of-interest-to-conduct-systematic-reviews-and-other-studies-for-estimating-the-burden-of-foodborne-diseases>

<sup>18</sup> <https://www.who.int/publications/i/item/9789240012264>