



**JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX COMMITTEE ON CONTAMINANTS IN FOODS**

14th Session

Utrecht, The Netherlands, 20 – 24 April 2020

MATTERS OF INTEREST ARISING FROM FAO AND WHO (INCLUDING JECFA)

1. This document provides information on FAO and WHO activities in the area of provision of scientific advice to Codex and Member countries, as well as other activities, which are of interest to the Codex Committee on Contaminants in Foods (CCCF).

Joint FAO/WHO Expert Committee on Food Additives (JECFA)

2. Since the last session of CCCF (April 2019), two JECFA meetings (i.e. JECFA87¹ and JECFA88²) have been convened. These meetings addressed food additives and residues of veterinary drugs. The reports are in the process of being published and detailed monographs are/will be available at the relevant FAO and WHO sites:

FAO: www.fao.org/food/food-safety-quality/scientific-advice/jecfa/en/

WHO: www.who.int/foodsafety/publications/jecfa/en/

3. Future meetings:

The 89th Meeting of JECFA will be held on 2 -11 June 2020 in Geneva, Switzerland. The meeting is dedicated to the evaluation of a number of food additives.

The call for data and draft agenda for JECFA89 are available on the respective FAO and WHO websites:

FAO: <http://www.fao.org/3/ca6809en/ca6809en.pdf>

WHO: https://www.who.int/foodsafety/JECFA_89_Call_for_data.pdf?ua=1

The 90th Meeting of JECFA will be held on 27 October - 5 November 2020 in Geneva, Switzerland. The meeting is dedicated to the evaluation of ergot alkaloids and trichothecenes. JECFA90 will also consider whether a group of listed substances will be suitable as previous cargos on request from the Codex Committee on Fats and Oils (CCFO).

The call for data and draft agenda for JECFA90 are available on the respective FAO and WHO websites:

FAO: <http://www.fao.org/3/ca6690en/ca6690en.pdf>

WHO: https://www.who.int/foodsafety/JECFA90_call_for_data.pdf?ua=1

Ad-hoc FAO/WHO Expert Meeting on (–)-hyoscyamine, (+)-hyoscyamine and (–)-scopolamine

4. On 30 March - 3 April 2020, FAO and WHO will convene an expert meeting to develop scientific advice in response to a request from the World Food Programme (WFP). The WFP is assisting millions of people in multiple countries each year and is the leading humanitarian organization. In 2019 several people died, and multiple people admitted to healthcare facilities after eating Super Cereal provided by WFP (flour-type product made of pre-cooked corn, soybean and micronutrients) in Uganda. An investigation demonstrated that tropane alkaloids from natural sources, a weed called *Datura stramonium*, in extremely high concentration and originated from the harvesting/processing of the soybeans was the cause of the outbreak. Due to lack of international scientific advice and Codex risk management measure on tropane alkaloids, WFP has asked FAO/WHO for scientific advice, to allow the development of appropriate risk management options. A report will be prepared after the meeting with the aim to publish it by the autumn of 2020.

¹ Evaluation of certain food additives (Eighty-seventh report of the Joint FAO/WHO Expert Committee on Food Additives) WHO Technical Report Series, No. 1020, 2020

² Evaluation of veterinary drug residues in food (Eighty-eighth report of the Joint FAO/WHO Expert Committee on Food Additives) WHO Technical Report Series, No.1023, 2020

Ad-hoc FAO/WHO Expert Meeting on Ciguatera Fish Poisoning

5. The issue of Ciguatera poisoning (CP) was raised at CCCF11 (2017) and the Committee agreed to request scientific advice from FAO/WHO to enable the development of appropriate risk management options. Based on this request, FAO and WHO convened an expert meeting on 19-23 November 2018 in Rome. Although there are many gaps in the available information about CP, there are some needs that require urgent attention regarding both risk management and research. The main needs for risk management are for the definition of clear protocols to avoid the risk of consuming toxic seafood, mainly by local people and tourists, but also consumers purchasing imported seafood from certain areas. This includes a well-defined information and outreach programme, and a clear identification of the geographic distribution of fisheries resources and causative organisms, as well as CTXs presence and concentration in different tissues and anatomic parts of the affected fisheries resources. The main research needs refer to detection methods, both screening and analytical, and the need to have a stable supply programme of analytical standards. The full meeting report is in the process of being published and will soon be available on the FAO and WHO sites.

Requests for scientific advice

6. Both organizations continue to jointly prioritise 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.
7. 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, Contaminants in Foods and Residues of Veterinary Drugs in Foods. Due to the increasing requests for scientific advice to JECFA, not all requests can be addressed in the subsequent meeting.
8. 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) and Mr Kim Petersen, Department of Nutrient and Food Safety, WHO (jecfa@who.int).

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

9. 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.
 - CIFOcOss (FAO/WHO Chronic Individual Food Consumption Data summary statistics) has been further implemented with data from additional countries and available summary statistics. Moreover this data on food consumption and food contamination (GEMS/Food contaminants) are now available on the same platform and using an harmonized food classification FoodEx2: <http://apps.who.int/foscollab>
 - The FAO/WHO Global Individual Food Consumption Data Tool (FAO/WHO GIFT) is currently sharing 9 datasets (including 3 nationwide datasets) and aims to share another 50 by the end of 2022. The database provides not only access to all microdata but also provides food-based indicators in the field of food consumption, 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 260 identified studies. The platform is available at <http://www.fao.org/gift-individual-food-consumption/en/>
 - The GEMS/Food programme 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).

Risk Assessment Methods and Principles

10. In addition to the scientific advice provided, the FAO/WHO Secretariats are working to update risk assessment methodologies, taking into account recommendations from expert meetings and the latest scientific developments. This is critical to assure that the scientific advice provided is based on up-to-date methodology and scientific knowledge.

In this context, several activities are under way, to address the following areas:

Chemical risk assessment methodology

- Update of guidance on evaluation of genotoxicity of chemical substances in food (section 4.5 of the Environmental Health Criteria (EHC 240), Principles for risk assessment of chemicals in food (FAO/WHO 2009)). An expert working group has provided guidance on interpretation of test results, in addition to general descriptions of genotoxicity tests, special considerations for data poor substances, and considerations for chemically related substances and mixtures. The expert working group has also addressed recent developments and future directions. A draft guidance has been made open for comments during an open consultation and the comments are currently being considered before the finalization of the guidance. The updated guidance is expected to be finalized during the summer of 2020.
- Update of guidance on dose–response assessment and derivation of health-based guidance values (Chapter 5 of EHC 240). An expert working group has been established with the aim to update and extend the guidance on dose–response assessment and derivation of health-based guidance values. A draft guidance has been open for comments during an open consultation and the comments are currently being considered before the finalization of the guidance. The updated guidance is expected to be finalized during the summer of 2020.
- Update of guidance on evaluation of enzyme preparations (EHC 240). An expert working group has proposed that the safety of enzyme preparations could be assessed with methodologies using fewer animals (e.g. metabolic profiling of microbial fermentation products, genomic DNA sequencing identifying mycotoxin synthesis genes). The expert working group focused on enzymes from genetically modified microorganisms and the information requirements for their safety evaluation. The expert working group have also proposed changes to the relevant sections of EHC 240 and produced a checklist of information required in enzyme submissions for future JECFA evaluations. A draft guidance has been open for comments during an open consultation and the comments are currently being considered before the finalization of the guidance. The updated guidance is expected to be finalized during the summer of 2020.
- Update of guidance on assessing dietary exposure to chemical substances in food (Chapter 6 of EHC 240). As part of the efforts to improve the international harmonization of methods, a joint FAO/WHO Expert Consultation was held in Geneva on 18-20 September 2019 to update chapter 6, Dietary exposure assessment of chemicals in food, of the EHC 240. The revised document is posted on FAO and WHO websites for public comments before its publication.

FAO's publication on Food Safety and Climate Change

11. Climate change is causing unprecedented damage to our ecosystems. Various climate change-related phenomenon like increasing temperatures, ocean warming and acidification, severe droughts, wildfires, altered precipitation patterns, melting glaciers, rising sea levels and amplification of extreme weather events have severe implications on our food systems. While the impacts of such environmental drivers on food security are well known, the effects on food safety receives less attention. In this regard, the FAO's publication "*Climate Change: Unpacking the Burden on Food Safety*" was written to identify and attempt to quantify some current and anticipated food safety issues that are associated with various climate change-related drivers. The food safety hazards that are considered in the publication are food-borne pathogens and parasites, harmful algal blooms, heavy metals with emphasis on methylmercury, pesticides and mycotoxins. By raising awareness of the issues, it is hoped that the document will not only help in improving our understanding of the climate change implications on food safety but also aid in fostering stronger international cooperation in reducing the global burden of these concerns. The publication concludes with a focus on the benefits of combining forward-looking approaches such as foresight with scientific innovations, not only to anticipate future challenges but also to build resilient systems that can be continually updated as more knowledge is assimilated. The publication is in the process of being published and will soon be available on the FAO site.

Other issues of potential interest to the Committee

FAO's work on bivalve mollusc monitoring

12. International trade has been the main driving factor for the rapid growth of the bivalve mollusc production industry during the last six decades, growing from nearly one million tonnes in 1950 to 17.5 million tonnes in 2017. According to FAO statistics, the export value of bivalve mollusc trade reached USD 4.42 billion in 2017. However, there are a very limited number of countries with consistent monitoring programmes for bivalve mollusc.

13. The need for developing international guidance for implementation of bivalve mollusc sanitation programme within the framework of the Section 7 of the Codex Code of Practice for Fish and Fishery Products (CCFFP) was identified by the representatives of 15 major bivalve producing and trading countries participating in the 2nd International Workshop on Molluscan Shellfish Sanitation: Application of Sanitary Surveys, held 24–28 September, 2012, in Newport, USA. CCFFP33 and the FAO Committee on Fisheries Sub-Committee on International Trade supported the development of international guidance by FAO/WHO.
14. The guidance was developed by a team of International experts representing different geographical regions and different bivalve mollusc production practices and was piloted in a number of countries.
15. The guidance has also served as the basis for developing e-learning training material (<https://elearning.fao.org/course/view.php?id=481>) as well as hands on training material.
16. The current document guides on aspects related to microbiological hazards, but lacks important guidance on chemical hazards, toxin phytoplankton and biotoxins for the development of the growing area aspects of bivalve mollusc sanitation programmes. FAO considers that there is a value in complementing this effort and build on the current guidance document to support countries in the production of safe bivalve mollusc and promote trade of this important commodity.

Microplastics

Update from FAO

17. The Global Oceans Action Summit for Food Security and Blue Growth³ requested that the FAO, The International Maritime Organization (IMO) and the United Nations Environment Programme (UNEP) work together with the Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) to improve the knowledge base on microplastics in the marine environment and provide policy advice on this topic. As a result, UNEP approached GESAMP, FAO and other partners with a proposal to contribute to the global assessment on sources, fate and impacts of microplastics on the marine environment and resources with funding provided by the Government of Norway. FAO was requested to contribute specifically on fisheries and aquaculture. FAO worked closely with key partners and academia, which resulted in a report called "Microplastics in fisheries and aquaculture".⁴ The document describes the status of knowledge on the occurrence of microplastics in the aquatic environment and the implications for aquatic organisms and food safety. It contains a set of recommendations and best practices to reduce the possible impact of microplastics on fish populations and stocks, as well as on food safety issues arising from seafood consumption. However, fisheries and aquaculture products are not the only contributor to the dietary exposure of microplastics and the Subcommittee on Fish Trade (COFI-FT) in its seventeenth session requested FAO to work jointly with WHO to carry out an exposure assessment including other relevant food commodities.

Update from WHO

18. 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.
19. 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 2019⁵. To continue WHO's effort to assess the potential health risks associated with exposure to microplastic, a currently ongoing project widens the scope of the assessment from a drinking-water focus to the environment, including exposure via food, water and air. Working with a group of international experts WHO aims to assess human health risks arising from exposure to microplastic particles from the environment, identify research needs and define the scope of the future work of WHO on microplastic particles. The report is expected to be published in summer 2020.

³ <http://www.globaloceansactionsummit.com/>

⁴ <http://www.fao.org/3/a-i7677e.pdf>

⁵ <https://apps.who.int/iris/handle/10665/326499>

Seaweed and chemical safety

20. The production and trade of Seaweed for human consumption is growing unprecedentedly, going from USD424.5 million in 2015 to USD624.9 million in 2018. Seaweed is a source of nutrients that can help to overcome the anticipated challenges of a growing world population. However, there is currently no international guidance regarding food safety for seaweed, where chemical contaminants such as arsenic, cadmium, iodine, pesticide residues, dioxins, biphenyls and polycyclic aromatic hydrocarbons among others, could pose a risk to human health. In this regard, FAO considers that there might be value in developing relevant Codex guidance on this subject and is presenting this issue for consideration by the Committee.

Marine biotoxins in water from desalination plants

21. In view of the global interest in the problems of harmful phytoplankton, and the associated mass mortality of marine organisms, public health problems, and economic impacts expressed through various recommendations of major IOC scientific and regional subsidiary bodies, the Intergovernmental Oceanographic Commission (IOC) Harmful Algal Bloom Programme (IPHAB) was established in 1987 to meet the scientific, managerial, implementation, and resource needs of the Harmful Algal Blooms Programme. The 13th Session of the IPHAB held at United Nations Educational, Scientific and Cultural Organization (UNESCO) Headquarters in 2017 expressed its interest to cooperate with FAO and WHO on a risk assessment of marine toxins in drinking water from desalination plants. FAO is presenting this issue for consideration by the Committee.