



JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON CONTAMINANTS IN FOODS

14th Session

(virtual)

3-7 and 13 May 2021

MATTERS OF INTEREST ARISING FROM OTHER INTERNATIONAL ORGANIZATIONS

(Prepared by the Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture¹)

1. The Food and Agriculture Organization of the United Nations (FAO) and the International Atomic Energy Agency (IAEA), through the Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture (the "Joint FAO/IAEA Centre"), support and implement activities related to food safety, quality and control systems. The activities of the Joint FAO/IAEA Centre are therefore closely related to the standards of the Codex Alimentarius Commission and its committees, including the Codex Committee on Contaminants in Foods (CCCF). In relation to food and food trade, the Joint FAO/IAEA Centre assists Member Countries of both FAO and IAEA in their peaceful application of nuclear techniques and related technologies through its Food and Environmental Protection Section and its associated Laboratory.
2. Joint FAO/IAEA Centre activities of interest to the CCCF include the analysis and control of various chemical residues and food contaminants; food traceability and authenticity; food related radiation safety standards; food irradiation and activities concerning food and agriculture and nuclear emergency preparedness and response. Activities also include conducting applied research and providing laboratory support and training primarily through the Food and Environmental Protection Laboratory (FEPL), which is one of the FAO/IAEA Agriculture and Biotechnology Laboratories, in Seibersdorf, Austria. Programmatic activities involve collecting, analysing and disseminating information for the effective transfer of skills and technology related to the nuclear sciences in food and agriculture. The Joint FAO/IAEA Centre also provides technical support for national, regional and interregional development work through technical cooperation projects.

Radionuclides in Food and Drinking Water

3. In its 2018 report, the Joint FAO/IAEA Centre stated that it would keep this committee informed of a project concerning radioactivity in food. The report also mentioned the importance of the IAEA Technical Document (TECDOC) entitled Criteria for Radionuclide Activity Concentrations for Food and Drinking Water (IAEA-TECDOC-1788)². This TECDOC has formed the basis of subsequent activities to address a request from IAEA Member Countries "to develop principles for harmonized guidance on radionuclide activity concentration values in food and drinking water, in continued cooperation with relevant international organizations and national authorities". The FAO, IAEA and the World Health Organization (WHO) are fully co-operating in this project, which covers non-emergency situations, with national radiation safety experts from several Member Countries. IAEA radiation safety standards specify an annual dose of 'about one millisievert' for the ingestion of food and 'about one millisievert' for drinking water in non-emergency situations. These doses cannot be measured directly and competent authorities in Member Countries are required to set reference levels, i.e. radionuclide concentrations (becquerels per kilogram or per litre), that are equivalent to these annual doses. While the WHO Guidelines for Drinking Water Quality provide guidance to national authorities in the case of radionuclides in drinking water, there is no equivalent international guidance for food.
4. At CCCF13, in 2019 the committee agreed to establish an electronic working group (EWG) on radioactivity in feed and food to produce a discussion paper for consideration at its next session, chaired by the European Union (EU), co-chaired by Japan, working in English with the following terms of reference:

¹ See: <https://www.iaea.org/topics/food-and-agriculture>

² <http://www-pub.iaea.org/books/IAEABooks/11061/Criteria-for-Radionuclide-Activity-Concentrations-for-Food-and-Drinking-Water>

- (i) Provide factual information on the radioactivity of both human-made and natural origin that can be found in feed and food (including drinking water) in normal circumstances (i.e. not in an emergency exposure situation following a nuclear or radiological accident).
- (ii) Identify the issues related to the presence in normal circumstances of radioactivity in feed and food (including drinking water) of both human-made and natural origin, such as feed and food safety, transfer of radioactivity from feed to food of animal origin, possible public health risks via intake of food, trade issues, etc. CCCF13 noted that (i) this discussion paper would result in an increased understanding of the presence of radioactivity in feed, food and drinking- water in normal circumstances and related issues, and (ii) provide appropriate information to enable the CCCF to take an informed decision on possible follow-up actions.

The project has continued and the FAO, IAEA and WHO are developing technical material on radioactivity in food in “existing exposure situations” which are non-emergency situations. The immediate goal is to publish this information as a technical document that can be used to support the long-term objective of developing and agreeing an international methodology for considering radioactivity in food. This methodology should be consistent with international guidance relating to drinking water. The views of the CCCF and the response to the EWG information paper will also be used to inform the future development of this work in relation to radioactivity in food.

5. Among the IAEA’s key publications are its Safety Standards, which provide the fundamental principles, requirements and guidance on all aspects of nuclear and radiation safety. They serve as a global reference for protecting people and the environment and contribute to a harmonized high level of safety worldwide. The IAEA is required by its Statute to promote international cooperation. Its Statute authorizes it to establish or adopt safety standards for the protection of health and to minimize the danger to life and property. The Agency develops such standards on the basis of an open and transparent process for gathering, integrating and sharing the knowledge and experience gained from the use of technologies and from the application of the Safety Standards themselves.

Technical Cooperation and Capacity Building

6. The Joint FAO/IAEA Centre provides technical support to a number of projects funded through the IAEA Department for Technical Cooperation. In the area of food safety and control there are currently 86 IAEA technical cooperation projects (77 national, 8 regional and one inter-regional). Further details on these capacity building projects can be found online, including a full listing³. Some of these projects are drawing to an end, but new projects will begin next year at the start of the new IAEA programme and budget biennium.

Coordinated Research Initiatives

7. The Joint FAO/IAEA Centre is currently implementing five coordinated research projects (CRPs) in the field of food safety and control. The CRP of most relevance to CCCF is entitled “Integrated Radiometric and Complementary Techniques for Mixed Contaminants and Residues in Foods” (CRP D52041). Under this project several multi-class analytical methods have been developed for measuring contaminants and residues in a range of food commodities. The work directly involves institutions in Benin, Botswana, China, Colombia, Ecuador, Nicaragua, North Macedonia, Pakistan, Papua New Guinea, Peru and Uganda. In addition, institutes in Italy, the Netherlands, South Africa, Spain and the USA are collaborating with the project participants. The second research coordination meeting was co-organized by the Joint FAO/IAEA Centre and the Botswana National Veterinary Laboratory (BNVL) in Gaborone, Botswana; it took place at the BNVL facilities in March 2019. The meeting and research developments have received considerable interest from both the public and private sectors.

Networking and Providing Information

8. In addition to the CCCF, the Joint FAO/IAEA Centre participates in, or provides input to, the Codex Alimentarius Commission, the Codex Committee on Pesticide Residues, the Codex Committee on Residues of Veterinary Drugs in Foods, the Codex Committee on Food Import and Export Inspection and Certification Systems and the Codex *ad Hoc* Task Force on Antimicrobial Resistance. The Joint FAO/IAEA Centre has been involved in providing data to the Codex Alimentarius Commission and helping develop many Codex standards, codes of practices and guidelines; a recent example being our participation in the electronic working group (eWG) on maximum levels for cadmium in chocolate and cocoa products. The Joint FAO/IAEA Centre counterparts and members of the networks have also contributed to the eWG and the discussion paper on maximum level(s) for hydrocyanic acid and mycotoxin contamination in cassava and cassava-based products.

³ A full list is available in the latest issue of the Joint FAO/IAEA Centre’s Food and Environmental Protection Newsletter (Vol. 24, No. 1, January 2021), pages 18-21: <https://www-pub.iaea.org/MTCD/Publications/PDF/Newsletters/fep-24-1.pdf>

9. The Joint FAO/IAEA Centre continues to address FAO and IAEA Member Countries requests for assistance with analytical methods, standard operating procedures and technical advice. The analytical methods developed or adapted and validated in the FEPL and collaborating institutions are made available to Member Countries through various mechanisms such as training workshops; outreach events, conferences and symposia, and publications (articles in the scientific journals, technical documents and books). Since the last CCCF meeting in 2019, the Food and Environmental Protection Section has published 16 papers on analytical methodology for the control of contaminants, residues and adulterants in food in the peer-reviewed scientific literature. In addition, the Food Contaminant and Residue Information System (FCRIS)⁴ is a free-to-access resource that we maintain to provide useful and informative data on food contaminants and residues and it includes a database of analytical detection methods for contaminants and residues in foods.

4 <http://nucleus.iaea.org/fcris/>