



## JOINT FAO/WHO FOOD STANDARDS PROGRAMME

### CODEX COMMITTEE ON PESTICIDE RESIDUES

52<sup>nd</sup> Session  
(Virtual)

26-30 July and 3 August 2021

### MATTERS ARISING FROM OTHER INTERNATIONAL ORGANIZATIONS

#### ACTIVITIES OF THE JOINT FAO/IAEA CENTRE OF NUCLEAR TECHNIQUES IN FOOD AND AGRICULTURE RELEVANT TO CCPR WORK

(Prepared by the Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture<sup>1</sup>)

1. The Food and Agriculture Organization of the United Nations (FAO) and International Atomic Energy Agency (IAEA), through the Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture (herein after "Joint FAO/IAEA Centre"), work with Member Countries to contribute to food security and sustainable agricultural development by use of nuclear techniques and biotechnology. Through its Food and Environmental Protection Section and Laboratory, the Joint FAO/IAEA Centre assists Member Countries of both FAO and IAEA in the peaceful application of nuclear techniques and related technologies to improve food safety and control systems. The activities of the Joint FAO/IAEA Centre are therefore closely related to the work of the Codex Alimentarius Commission and its committees, including the Codex Committee on Pesticide Residues (CCPR).
2. Activities of relevance to the CCPR include developing and using nuclear and isotopic analytical methods for the analysis and control of various chemical residues and food contaminants in agricultural products. Through its sub-programme on 'Improvement of Food Safety and Food Control Systems', the Joint FAO/IAEA Centre continues to support laboratories and technical capabilities in Member Countries in their application of Codex standards and codes of practice as part of national and regional food control systems.
3. The activities of the Joint FAO/IAEA Centre are carried out through coordinating and supporting research; providing laboratory services, training and capacity building through its Food and Environmental Protection Laboratory (FEPL) at Seibersdorf, Austria, as well as collecting, analysing and disseminating information for the effective transfer of skills, knowledge and technology. The Joint FAO/IAEA Centre also provides technical support for national, regional and interregional technical cooperation and capacity building projects in the field of food safety and control.

#### Coordinated Research Activities

4. Collaborative research activities are undertaken in selected nuclear and related techniques by scientists in IAEA and FAO Member Countries. These activities are implemented through coordinated research projects (CRPs) including institutes in both developing and developed countries that work on common food safety and quality themes. In the period covered by this report, nuclear and related analytical methods for measuring pesticide residues in foods were developed in two CRPs in food safety and control (Table 1, showing selected CRPs relevant to CCPR and sister committees). New analytical methods and standard operating procedures have been and continue to be developed through these CRPs.

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

5. The CRP “Integrated Radiometric and Complementary Techniques for Mixed Contaminants and Residues in Foods” (Reference D52041 in Table 1) involves researchers and regulatory institutions in the following Member Countries: Benin, Botswana, China, Colombia, Ecuador, Italy, Netherlands, Nicaragua, North Macedonia, Pakistan, Papua New Guinea, Peru, Spain, South Africa, Uganda and the United States of America (USA). The research work focuses on the development of multi-class analytical methods to support programmes for detecting and controlling contaminants and residues of different types and from different sources. More than 10 methods have been developed for analysis of pesticide and veterinary residues as well as mycotoxins in a range of food commodities. The project’s 2<sup>nd</sup> RCM, co-organized by the Joint FAO/IAEA Centre and the Botswana National Veterinary Laboratory, was held in Gaborone, Botswana, from 25-29 March 2019 while the 3<sup>rd</sup> RCM, originally planned for 06-10 April 2020 in China, took place virtually on 26-30 April 2021.
6. Another CRP, D52043, “Depletion of Veterinary Pharmaceuticals and Radiometric Analysis of their Residues in Animal Matrices”, has been initiated for the period 2020/21-2026/27 with the possibility of including dual-use compounds on relevance to CCPR and the Codex Committee on Residues of Veterinary Drugs (CCRVDF). Findings in the research could also benefit interests in other areas such as residues in offal. The project so far involves 17 research/regulatory institutions from Bangladesh, Burkina Faso, Brazil, Canada, Chile, China, Korea (Republic of), Morocco, Pakistan, Sudan, Uganda, Uruguay and USA. Collaboration and partnerships in areas such as in the synthesis or provision of radiolabelled compounds; access to or assistance in strengthening of animal experimental facilities and good laboratory practice (GLP)-certified laboratories; provision of some specialized training and/or benchmarking opportunities to the participants, among others, are most welcome from the committee. The 1st RCM for this project was held virtually on 17-21 May 2021. Researchers from the participating institutions and well-wishers including Costa Rica attended.

#### Technical Cooperation and Networking

7. The Joint FAO/IAEA Centre provided technical support to more than 60 IAEA Technical Cooperation Projects (TCPs) in food safety and control<sup>2</sup> since CCPR51 (2019) (*see Table 2 for selected active TCPs; development of new projects for the 2022-2023 cycle is also under way*).
8. **Networking:** The Joint FAO/IAEA Centre continues to promote the formation of regional laboratory/food safety networks as a mechanism to enhance capacity building, including the Latin American and Caribbean Analytical Network (RALACA)<sup>3</sup>, the African Food Safety Network (AFoSAN)<sup>4</sup> and a food safety network in Asia<sup>5</sup>. These networks provide a platform for sharing knowledge and experiences as well as interlaboratory comparisons and benchmarking. Since the last CCPR, more than 34 institutions in Africa and Asia received support to participate in proficiency testing schemes, improving their competence.
9. **Conclusion of an Interregional food safety project – Indonesia:** A 4-year interregional food safety technical cooperation project involving 29 Member Countries and through which several participants were supported to attend CCPR and other Codex committee meetings, was concluded following a final coordination meeting in Jakarta, Indonesia, on 22-24 January 2020. Beneficiary countries included Angola, Argentina, Benin, Bolivia, Botswana, Cameroon, Chile, Costa Rica, Cuba, Ecuador, Egypt, Guatemala, Honduras, Indonesia, Lebanon, Mongolia, Mozambique, Nigeria, Pakistan, Seychelles, Singapore, South Africa, Sri Lanka, Tunisia, Turkey, Uganda, United Republic of Tanzania, Uruguay and Venezuela. Through this project, 86 analytical methods were validated and/or accredited, and 22 countries attained or maintained ISO accreditation. More than 13 countries established or improved their national monitoring programmes for residues or contaminants, and a good number of these support public health programmes and maintain food exports and trade. Up to 400 scientists were trained over the course of the 4-year project in various food safety aspects. Of these, 98 scientists attained a higher level of expertise so that they can train others in analytical techniques. Relevant data on residues and food contaminants were generated including baseline information on pesticide residues (among others such as veterinary drug residues, mycotoxins and toxic metals) in various foods. The project also promoted interregional collaboration among participants to address common challenges associated with food safety standards, public health and trade.

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<sup>2</sup> Additional information is available in our Newsletter:

<https://www-pub.iaea.org/MTCD/Publications/PDF/Newsletters/fep-24-1.pdf>

<sup>3</sup> See: <http://red-ralaca.net>

<sup>4</sup> See: <http://www.africanfoodsafetynetwork.org/>

<sup>5</sup> See: <http://www.foodsafetyasia.org/>

10. **Supporting the food safety regulatory framework:** The Joint FAO/IAEA Centre organized a two-day virtual regional training course (6-7 April 2021) aimed at contributing towards establishing or strengthening food safety among Member Countries. This was attended by over 50 participants from 25 countries in the African region, involved in different aspect of the safety control system. The trainees benefited from the expertise and knowledge of two former Codex Alimentarius Commission Chairpersons as well as the Chair CCAFRICA and lessons from other parts of the world, among others. Participating countries also shared their experiences, success stories and challenges that require follow-up action.
11. **Minor Use Foundation and Priority setting:** The Joint FAO/IAEA Centre supported 45 scientists from the African region to participate in the 2-day 3<sup>rd</sup> Global Minor Use Priority Setting Workshop organized by the Minor Use Foundation, Inc., in support of the maximum residue limit MRL-setting process for pesticide residues. This workshop was held virtually on 21-22 September 2020.

### Technology Transfer and Capacity Enhancement

12. **Supporting analytical laboratories:** The Joint FAO/IAEA Centre continues to meet requests from Member Countries for analytical methods, standard operating procedures and technical guidance. The methods developed or adapted and validated in the FEPL and collaborating institutions are made available to Member Countries through various mechanisms, including training workshops, publications in the scientific literature and public outreach events, as well as the platform 'Food Contaminant and Residue Information System' (FCRIS, <http://nucleus.iaea.org/fcris/>)<sup>6</sup>.
13. **Regional multi-stakeholder workshops/conferences:** As a follow-up of the "African Food Safety Workshop to Promote Standards, Reliable Methods of Analysis of various residues/contaminants" held in Pretoria, South Africa, 4-8 June 2018, and organized in cooperation with the National Metrology Institute of South Africa (NMISA), the Joint FAO/IAEA Centre is planning a similar event in June/July 2022. As a preamble, a half-day virtual workshop is being organized on 4 August 2021, also in partnership with NMISA. This is expected to set the stage for the physical meeting in 2022.
14. Since May 2020, the FEPL promoted food safety work in the Latin American and Caribbean region through the RALACA. Ten webinars and three virtual trainings covering a range of topics on food safety and environmental sustainability were implemented.
15. The FEPL is planning a Joint FAO, IAEA and RALACA Workshop on Food Contaminant Testing and Risk Assessment Programmes on 12-14 October 2021. The purpose of the workshop is to share and communicate scientific and technological developments, identify gaps in knowledge and discuss ways in which nuclear and isotopic methodologies can improve food safety testing and risk assessment programmes.

**Table 1. Coordinated Research Projects (CRPs) supported by the Joint FAO/IAEA Centre and relevant to CCPR's work**

CRP Ref. No.	Active CRPs
D52039	Development and Strengthening of Radio-Analytical and Complimentary Techniques to Control Residues of Veterinary Drugs and Related Chemicals in Aquaculture Products
D52041	Integrated Radiometric and Complementary Techniques for Mixed Contaminants and Resides in Foods
D52043	Depletion of Veterinary Pharmaceuticals and Radiometric Analysis of their Residues in Animal Matrices

<sup>6</sup> See: <http://nucleus.iaea.org/fcris/>

**Table 2. Ongoing IAEA Technical Cooperation Projects (TCPs) supported by the Joint FAO/IAEA Centre and relevant to CCPR's work**

Number	Country/ Region	Project No.	Title
1	Benin	BEN5013	Strengthening National Capabilities to Improve the Safety and Competitiveness of Exportable Food Products
2	Botswana	BOT5020	Enhancing Capabilities for a Holistic Approach to Testing Food Hazards in Poultry Production and Products
3	Burundi	BDI5003	Strengthening National Capabilities for Monitoring and Testing Veterinary Drug Residues in Food
4	Cambodia	KAM5004	Strengthening National Capacity for Food and Feed Safety
5	Cameroon	CMR5025	Improving Laboratory Testing Capabilities to Enhance the Safety and Competitiveness of Agricultural Products - Phase I
6	Cote d'Ivoire	IVC5041	Strengthening Capabilities to Monitor Contaminants in Food and the Environment
7	Costa Rica	COS5037	Strengthening Capabilities to Analyse and Monitor Toxic Metals in Animal Products
8	Democratic Rep. of the Congo	ZAI5028	Controlling Food and Feed Contaminants in Fish Production
9	T.T.U.T.J of T. Palestinian A.	PAL5010	Strengthening Capability to Monitor Contaminants in Food and Related Matrices through Nuclear and Complementary Analytical Techniques
10	Eritrea	ERI5012	Developing Analytical Capabilities for Food Safety
11	Fiji	FIJ5004	Establishing a Food Safety Laboratory for Analysis of Pesticide Residues in Fresh Fruits, Vegetables and Root Crops
12	Georgia	GEO5001	Enhancing National Programmes for Testing and Monitoring Food Contaminants and Residues
13	Haiti	HAI5009	Strengthening Laboratory Capacity to Test and Monitor Food Contaminants
14	Mauritania	MAU5008	Strengthening Laboratory Capacity to Analyse and Monitor Residues and Contaminants in Foods
15	Niger	NER5023	Strengthening Capacity of the Public Health Laboratory to Monitor Food Contaminants
16	Namibia	NAM5018	Strengthening Animal Health and Food Safety Control Systems
17	Mauritius	MAR5027	Strengthening Multi-Institutional Laboratory Capabilities to Control Veterinary Drug Residues and Associated Food Contaminants

Number	Country/ Region	Project No.	Title
18	Mozambique	MOZ5010	Establishing confirmatory analytical capabilities for veterinary drug residues and related contaminants in animal products
19	Rwanda	RWA5002	Strengthening Laboratory Capacity to Analyse and Monitor Food Contaminants by Standards Board
20	Sudan	SUD5040	Strengthening the Evaluation of Quality, Monitoring and Control Programmes for Food Contaminants
21	Seychelles	SEY5010	Strengthening Laboratory Capabilities to Enhance Food Safety Using Nuclear and Complimentary Analytical Techniques
22	Lebanon	LEB5016	Strengthening Capacity for Exposure Assessment of Residues and Contaminants in the National Diet
23	Marshal Islands	MHL5002	Building Core Capacities to Control Contaminants and Other Residues in Food — Phase I
24	Vanuatu	NHE5002	Strengthening Agro-Food Laboratory Quality Infrastructure in Vanuatu
25	Philippines	PHI5035	Advancing Laboratory Capabilities to Monitor Veterinary Drug Residues and Related Contaminants in Foods
26	Kyrgyzstan	KIG5001	Establishing Effective Testing and Systematic Monitoring of Residues and Food Contaminants and of Transboundary Animal Diseases
27	Bahamas	BHA5001	Developing laboratory capacity for testing contaminants in animal and related products including fish in Bahamas
28	Dominica	DMI5002	Enhancing Capacity to Monitor Agrochemical Residues in Foods and Related Matrices
29	Nicaragua	NIC5012	Strengthening the Monitoring and Control System for Food Contaminants
30	Panama	PAN5027	Strengthening Analytical Capabilities for Risk-based Monitoring of Agricultural Products for Internal Consumption
31	Uganda	UGA5042	Strengthening Capabilities of Two Central Food Safety Laboratories and Selected Regional Veterinary Centres of Public Health
32	Regional-Asia and the Pacific	RAS5078	Enhancing Food Safety Laboratory Capabilities and Establishing a Network in Asia to Control Veterinary Drug Residues and Related Chemical Contaminants
33	Regional-Latina America & Caribbean	RLA5081	Improving Regional Testing Capabilities and Monitoring Programmes for Residues/Contaminants in Foods Using Nuclear/Isotopic and Complementary Techniques (ARCAL CLXX)

<b>Number</b>	<b>Country/ Region</b>	<b>Project No.</b>	<b>Title</b>
34	Regional- Latin America & Caribbean	RLA5080	Strengthening the Regional Collaboration of Official Laboratories to Address Emerging Challenges for Food Safety (ARCAL CLXV)
35	Regional- Latin America & Caribbean	RLA5079	Applying Radio-Analytical and Complementary Techniques to Monitor Contaminants in Aquaculture (ARCAL CLXXI)
36	Regional- Africa	RAF5084	Strengthening Food Contaminant Monitoring and Control Systems and Enhancing Competitiveness of Agricultural Exports using Nuclear and Isotopic Techniques (AFRA)