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CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

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Agenda item 4 **CX/RVDF 24/27/4**

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON RESIDUES OF VETERINARY DRUGS IN FOODS

27th Session
21-25 October 2024
Omaha, Nebraska, United States of America

MATTERS OF INTEREST ARISING FROM THE JOINT FAO/IAEA CENTRE

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

1. The International Atomic Energy Agency (IAEA) and Food and Agriculture Organization of the United Nations (FAO), through the Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture (Joint FAO/IAEA Centre), support and implement activities relevant to the Codex Committee on Veterinary Drug Residues in Food (CCRVDF). This year marks the 60th anniversary of the Joint FAO/IAEA Centre, which continues to render services to Member Countries of both organizations through technical cooperation projects (TCPs), coordinated research projects (CRPs) and laboratory-led applied research and technology adaptation to promote food safety, consumer protection and facilitate trade. This goal is achieved in collaboration with sister FAO Divisions in Rome and the regions through the Food Safety and Control Section and its laboratory, the Food Safety and Control Laboratory (FSCL) in Seibersdorf, Austria.

2. The Joint FAO/IAEA Centre has continued cooperating with several Member Countries in controlling pharmacologically active veterinary substances and in efforts to generate scientific data for food safety standards-setting, using nuclear and isotopic analytical techniques and technologies. Selected activities relevant to this Committee since CCRVDF26 and those of future relevance are highlighted below.

Coordinated research activities

3. These activities are implemented through coordinated research projects (CRPs) involving up to twenty institutions or more in both developing and developed countries working on a common theme. Examples include the two CRPs on: 'Depletion of Veterinary Pharmaceuticals and Radiometric Analysis of their Residues in Animal Matrices' and "Nuclear techniques to support risk assessment of biotoxins and pathogen detection in food and related matrices". Products of such projects support the implementation of food safety system requirements and facilitate standards-setting or implementation.

4. Eighteen research institutions in Bangladesh, Burkina Faso, Brazil, Canada, Chile, Costa Rica, Morocco, North Macedonia, Pakistan, the People's Republic of China, the Republic of Korea, Sudan, Tunisia, Uganda, Uruguay and the United States of America continue to research 'Depletion of Veterinary Pharmaceuticals and Radiometric Analysis of their Residues in Animal Matrices'. For example, Chile is involved in a work programme on radiolabelled amoxicillin and ampicillin in poultry. Two analytical methods have been developed and validated for this work. Uruguay is enhancing their research on radiolabelled ethion in food animals and has developed and validated relevant analytical methods. In Brazil, work was performed by the Laboratorio Ecotoxicologia, Universidade de Sao Paulo, to study the depletion kinetics of sulfadiazine C-–14 in Lambari fish and the dual-use insecticide diflubenzuron C-–14 in post-larval shrimp. The depletion of tritium-labelled diaveridine in pigs, poultry and rats has been investigated in China, while researchers in Pakistan have investigated the depletion of tritium-labelled oxytetracycline as well as the withdrawal of chlortetracycline in broiler chicken. Bangladesh is also investigating the depletion of tritium-labelled amoxicillin in local broiler chickens. Another institution in Brazil has investigated the depletion of tritium labelled Ivermectin in guinea pigs, a new work area. Guinea pigs are a source of protein for some consumers.

5. Other drugs on the list for investigation under the depletion-CRP include amitraz, diminazen, doxycycline, emamectin benzoate, florfenicol, levamisole and lufenuron among others, all in a range of aquatic and terrestrial food animals.

Capacity building & meetings

6. **Advanced training on the use of radioisotopes in food safety and control, 14th-19th October 2024:** The Joint FAO/IAEA Centre is organizing a week's training on cyclotron technology and its application to food safety standards-setting. This training introduces participants to the production of radioisotopes such as Zinc-65 and Zinc-62, using the technology and associated good manufacturing practices and non-GMP. Further work will include the radiolabelling of targeted veterinary drugs using Zinc-65 and Zinc-62 radioisotopes and the depletion of such a drug in fish will also be demonstrated. Eight scientists from Burkina Faso, Sudan, Tunisia and Uganda will benefit from this training and subsequently facilitate relevant research to generate radiolabelled residue data as well as training others.

7. **Regional training course on good laboratory practices for animal disposition studies — Large terrestrial food animals:** This training will take place in Rabat, Morocco, from the 11th to the 15th of November 2024. The event aims to build regional capacity and knowledge in good laboratory practices to support the process of food safety standard-setting when using large food animals. Nearly 40 participants from Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Congo, Djibouti, Egypt, Eswatini, Ethiopia, Kenya, Lesotho, Madagascar, Mauritania, Morocco, Namibia, Nigeria, Rwanda, Senegal, Sudan, Togo, Tunisia, Uganda and Zimbabwe will participate.

8. **Advanced regional training course on isotope-based confirmatory techniques for residues/contaminants in food products:** This training will take place from the 27th to the 31st of October 2024 in Doha, Qatar, hosted by the Ministry of Public Health. The purpose is to build advanced laboratory analytical capacity for antimicrobial residues, mycotoxins, pesticide residues and toxic metals among Asia-Pacific Member Countries. Thirty-nine food safety scientists from Afghanistan, Bahrain, Bangladesh, Indonesia, Iraq, Jordan, Kuwait, Lao P.D.R., Malaysia, Mongolia, Myanmar, Oman, Pakistan, Palestine, Philippines, P.R. China, Qatar, Sri Lanka, Syrian Arab Republic, Thailand and Yemen will participate.

9. **The international symposium on food safety and control, 27th-31st May 2024, Vienna, Austria:** The IAEA and FAO organized the symposium that nearly 530 participants, mostly in-person, attended. A session on chemical residues and contaminants in food and feed covered a broad range of chemical and biological hazards with a number of screening and confirmatory analytical techniques addressed. The session noted the need for more studies on the safe application of agrochemicals, such as pesticides and veterinary medicines, and proper monitoring of associated residues in agricultural production. The session also recommended further work on using existing facilities such as cyclotrons to produce radioisotopes for application in food safety (animal depletion studies), undertaking animal studies, and generating data for standards setting. This would require promoting capabilities for radiosynthesis and radiolabelling. Laboratories were also encouraged to invest in screening techniques such as, but not limited to, radio-receptor assays to facilitate cost-effective food safety testing, especially for low-income countries. The symposium also highlighted where veterinary drugs are on the global agenda for antimicrobial resistance and the One-Health Approach.

10. **African Food Safety Workshop 2024/Third Africa Food Safety technical meeting, 7th-11th October 2024 in Marrakech, Morocco:** More than 100 participants from at least 30 countries will attend this meeting and deliberate on various topics, including, among others, (a) the Atoms4Food initiative-Food safety and Control Service launched by the FAO and IAEA in October 2023; (b) implementation of the African Food Safety Strategy 2022-2036; (c) food safety standards and laboratory support for the African Continental Free Trade Agreement (AfCFTA); (d) government and industry support for food safety control systems, scaling-up and sustainability; (e) sanitary and phytosanitary (SPS) measures and equivalency; and (f) metrological systems on the continent and how they are contributing to the above initiatives. The meeting will also provide opportunities for enhancing networking among food safety stakeholders, learning and sharing of experiences, and scoping for new and strengthening current partnerships and collaboration in food safety and control under the African Food Safety Network (AFoSaN).

11. **Participation in the WHO Alliance for Food Safety inception meeting: The Joint FAO/IAEA Centre joined 100 global stakeholders from 6th to 8th May 2024 to participate in an inception meeting for the WHO Alliance for Food Safety and in foodborne disease surveillance** in Geneva, Switzerland. This was organized by the WHO Nutrition and Food Safety Department in collaboration with the Division of Foodborne, Waterborne, and Environmental Diseases of the Centres for Disease Control and Prevention of the United States of America. Experts came from 64 WHO collaborating centres and international and European organizations, including the World Organization for Animal Health, the United Nations International Children's Emergency Fund and the World Food Programme. Others were the European Commission, the European Food Safety Authority, the European Centre for Disease Prevention and Control, the U.S. Food and Drug Administration, the Saudi Food and Drug Authority, the French Agency for Food, Environmental and Occupational Health and Safety and the German Federal Institute for Risk Assessment. Health Canada, the Canadian Food Inspection Agency and the Kenya Medical Research Institute were also represented. The Joint FAO/IAEA Centre presents its experience working with various networks in Asia-Pacific, Africa, Latin America, and the Caribbean and is keen to collaborate.

Technical cooperation projects

12. The Joint FAO/IAEA Centre continues to support national and regional technical cooperation projects by providing equipment, expert advice, training, analytical methods, and opportunities to share knowledge and experiences (see Table 1 highlighting selected projects). The design of new capacity building projects for the 2026-2027 cycle is currently underway for a number of countries, including, but not limited to, Azerbaijan, Belize, Côte d'Ivoire, Georgia, Grenada, Kenya, Jordan, Kuwait, Oman, Paraguay, Romania, Singapore, Sri Lanka, South Africa, Syrian Arab Republic and Togo. Regional projects are also under consideration.

13. Through some of the ongoing technical cooperation projects, the Joint FAO/IAEA Centre is supporting the in-person participation of a number of participants in Codex committee meetings, including CCRVDF27.

Table 1: Overview of selected projects supported by the Joint FAO/IAEA Centre

Number	Country/ Region	Project No.	Title
1	Bahamas	BHA5003	Strengthening Laboratory Capacity for Testing Microbial and Related Chemical Contaminants in Food Products
2	Bangladesh	BGD5034	Enhancing Competence in Nuclear and Complementary Capabilities for Testing/Monitoring Veterinary Drug Residues and Other Contaminants in Foods
3	Barbados	BAR5001	Enhancing Capability for Food Safety and Surveillance through the Development of Nuclear, Isotopic and Complimentary Analytical Methods
4	Cameroon	CMR5028	Improving the Capacity for Food Safety Testing Using Nuclear and Complementary Techniques
5	Comoros	COI5001	Building a Food Safety Laboratory Capacity in Comoros — Phase I
6	Cote d'Ivoire	IVC5045	Strengthening National Analytical Capacities for Food Safety Testing and Assessing Micronutrient Bioavailability in Local Diets
7	Democratic Republic of the Congo	COD5013	Using Nuclear Techniques to Improve Crop Productivity for Maize, Soybeans and Beans, as well as Food Safety Testing Capabilities
8	Djibouti	DJI5001	Developing Nuclear/Isotopic and Complementary Food Safety Testing Capabilities
9	Dominica	DMI5004	Establishing a National Food Safety Monitoring Surveillance Programme
10	Ecuador	ECU5033	Strengthening Laboratory Capacities for Monitoring Residues of Neonicotinoid Pesticides in Honeybees and Honey
11	Eritrea	ERI5016	Enhancing Food Safety Analytical and Monitoring Capabilities
12	Fiji	FIJ5005	Establishing a Food Safety Laboratory for Analysis of Pesticide Residues in Fresh Fruits, Vegetables and Root Crops — Phase II
13	Fiji	FIJ5008	Improving the Capabilities of the Food Safety Laboratory for Analysis and Control of Biological Contaminants
14	Georgia	GEO5001	Enhancing National Programmes for Testing and Monitoring Food Contaminants and Residues
15	Honduras	HON5012	Strengthening Analytical Capabilities for the Detection of Residues, Contaminants and Microbiological Hazards in Food and Feed
16	Kyrgyzstan	KIG5001	Establishing Effective Testing and Systematic Monitoring of Residues, and Food Contaminants, and Transboundary Animal Diseases
17	Lesotho	LES5011	Strengthening Nuclear and Related Food Safety Laboratory Capabilities to Control Veterinary Drug Residues and Related Contaminants

Number	Country/ Region	Project No.	Title
18	Marshall Islands	MHL5004	Strengthening Capacities for the Detection and Control of Contaminants and Residues in Food
19	Mauritania	MAU5011	Enhancing Intersectoral Food Safety Testing and Surveillance of Chemical and Biological Hazards
20	Mozambique	MOZ5012	Enhancing Food Safety Testing and Monitoring of Hazards Using Nuclear and Related Techniques
21	Namibia	NAM5021	Enhancing National Food Safety and Aquatic Contaminant Monitoring Programmes
22	Niger	NER5026	Enhancing Food Production, Preservation, Safety and Quality
23	Pakistan	PAK5053	Strengthening and Enhancing National Capabilities for the Development of Climate Smart Crops, Improvement in Animal Productivity and Management of Soil, Water, and Nutrient Resources Using Nuclear and Related Technique
24	Palau	PWL5005	Building Core Capacities to Control Contaminants and Other Residues in Food — Phase I
25	Panama	PAN5032	Strengthening Monitoring Capabilities for Chemical Residues and Contaminants in Aquaculture Using Nuclear and Isotopic Techniques
26	Qatar	QAT5009	Enhancing National Food Safety Capacity to Test and Monitor Residues/Contaminants Using Nuclear and Related Isotopic Techniques
27	Samoa	WSM5001	Building Core Laboratory Capacities to Control Chemical Contaminants and Residues in Food
28	Senegal	SEN5043	Developing the Capacity to Conduct an Assessment of Exposure to Chemical Hazards in Food and to Evaluate the Nutritional Composition of Local Dishes
29	Seychelles	SEY5014	Developing Toxicological Analytical Capability for Monitoring and Biomonitoring Exposure to Toxic Agents in Biological and Environmental, as well as Food and Water Matrices
30	South Africa	SAF5018	Establishing National Capacities for Monitoring and Control of Pesticide Residues in Agricultural Produce
31	St Lucia	STL0001	Strengthening Institutional Capacities in the Application of Nuclear Technology
32	Togo	TOG5007	Developing Laboratory Capacities for the Quality Control of Food and Pharmaceutical Products
33	Vanuatu	NHE5005	Strengthening Agro-Food Laboratory Quality Infrastructure – Phase III
34	Zambia	ZAM5034	Expanding the Scope of Food Safety Testing and Surveillance of Hazards in Foods and Related Matrices

Number	Country/ Region	Project No.	Title
35	Regional - Asia and the Pacific	RAS5096	Strengthening Multi-stakeholder Food safety Monitoring Programmes for Chemical Contaminants and Residues in Plant and Animal Products Using Nuclear/Isotopic Techniques
36	Regional - Asia and the Pacific	RAS5099	Developing Climate Smart Crop Production, including Improvement and Enhancement of Crop Productivity, Soil and Irrigation Management, and Food Safety Using Nuclear Techniques (ARASIA)
37	Regional - Latin America and the Caribbean	RLA5091	Strengthening the Monitoring Programmes of Pesticide Residues and Mycotoxins in Food Through the Establishment of a Proficiency Test Programme in Official Laboratories (ARCAL CXCV)
38	Regional - Africa	RAF5091	Enhancing Human and Analytical Capacities for Food Safety Standards (AFRA)