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FOOD AND AGRICULTURE
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Agenda Item 3(b)

CX/CF 10/4/3-Add. 1
March 2010

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

Fourth Session

Izmir, Turkey, 26 – 30 April 2010

MATTERS OF INTEREST ARISING FROM OTHER INTERNATIONAL ORGANISATIONS (Submitted by the International Atomic Energy Agency)¹

COORDINATED RESEARCH PROJECT ON APPLICATIONS OF RADIOTRACER AND RADIOASSAY TECHNOLOGIES TO SEAFOOD SAFETY RISK ANALYSIS

Introduction to the Coordinated Research Project

1. Radiotracer and radioassay nuclear techniques are particularly useful for generating information on the bio-kinetics and food chain transfer of metals and toxins in marine organisms, including those that are consumed as seafood. Such information could be better linked to analyses that support risk-based management decisions with respect to the safety assessment of commercially important seafood intended for human consumption.

2. In support of these objectives, the IAEA initiated a Coordinated Research Project (CRP) on *Applications of Radiotracer and Radio-assay Technologies to Seafood Safety Risk Analysis*. It is envisioned that this research will lead to the potential establishment of maximum levels in seafood for those contaminants already evaluated (cadmium) as well as contaminants not evaluated to date (harmful algal blooms, persistent organic pollutants and other toxins) through the Joint FAO/WHO Expert Committee on Food Additives (JECFA) and the Joint FAO/WHO Codex Alimentarius Commission.

Objectives of the Coordinated Research Project

3. The broad objective of the CRP is to generate data on priority contaminants in seafood organisms with regard to human consumption, sale and export, and to assess the application and relevance of these experimentally-derived and field-based data to the management of these contaminants in seafood. The specific CRP objectives include the:

- Integration of current studies on applications of nuclear techniques to the study of the bioaccumulation and food-chain transfer of contaminants in seafood with risk management decisions in relation to the assessment of their suitability for human consumption and trade.
- Clear identification of the needs for scientific data on the bioaccumulation of priority contaminants in seafood through linkages with international standardisation bodies.
- Generation of data that are relevant to the management of contaminants in seafood through the application of radiotracer, radio-assay and related nuclear technologies.

¹ Document prepared by and under the responsibility of the IAEA.

Activities of the Coordinated Research Project

4. Subsequent to the First and Second Research Coordination Meetings (RCM) held under the CRP,² the *Third Research Coordination Meeting for the Coordinated Research Project on Applications of Radiotracer and Radioassay Technologies to Seafood Safety Risk Analysis* met at IAEA Headquarters in Vienna, Austria, from 1-5 February 2010.³

5. The third meeting noted that the general objectives of the RCM were to:

- Discuss and review the project reports presented by the individual participants, including in the context of the overall CRP objectives and the conclusions and recommendations of the 2nd RCM.
- Examine additional means of strengthening interaction between the participants.
- Prepare revised conclusions and recommendations to facilitate the project tasks.

6. In reviewing the objectives of the CRP and discussions at the 2nd RCM, the participants confirmed that the CRP would optimally generate scientifically sound outputs and outcomes related to international standardization activities, including the:

- Generation of quality-assured field data on contaminant levels in target biota, using reference materials.
- Interpretation of data underpinned by mechanistic understandings, based on radio-assay/tracer experimental studies.
- Potential consideration of data by JECFA to facilitate decision making on acceptable background levels in seafood and/or advice from JECFA on what additional data would be needed.
- JECFA and/or related expert committee assessments of seafood contaminants based on the CRP data provided, leading to the potential establishment of Codex maximum levels in seafood.

7. Among the topics of discussion, presentations were made to provide information on the further consideration of the CRP results within the international community. These presentations included:

- Recent Standardization Activities of the Joint FAO/WHO Codex Alimentarius Commission Related to Seafood and Seafood Safety.
- Proposal Concerning the Establishment of the Marine Radioecology International Network (MARLIN).
- Status of Ongoing and Future IAEA Technical Cooperation Projects on the Use of Receptor Binding Assay for the Quantification of PSP and CFP Biotoxins in Seafood.
- Country Presentations, Conclusions and Recommendations.

Conclusions of the Research Coordination Meeting Related to Codex Activities

8. The RCM noted that a representative of the IAEA reported on the CRP results at the 3rd Session of the CCCF in March 2009 and subsequently at the 32nd Session of the Joint FAO/WHO Codex Alimentarius Commission in June/July 2009.

9. The RCM was informed that the 3rd CCCF included cadmium and lead in its priority list for the evaluation of these compounds at the 73rd meeting of JECFA in June 2010. The CCCF further agreed to consider research data arising from the CRP in the potential establishment of maximum levels for cadmium in seafood (oysters, scallops and cephalopods).

² See CX/CF 09/3/3 - Add. 1 of February 2009 for details.

³ The full report of the *Third Research Coordination Meeting (RCM) of the Coordinated Research Project on Applications of Radiotracer and Radio-assay Technologies to Seafood Safety Risk Analysis* is available on request.

10. The RCM welcomed the submission of data on cadmium to JECFA by CRP participants from Canada, Chile, China, Japan, Thailand and Vietnam, and it was noted that the conclusions of the 73rd JECFA would be considered by the fourth RCM in 2011.

**SURVEY OF FUMONISIN B1 CONTAMINATION OF FOOD-GRADE COMMERCIAL MAIZE KERNEL LOTS
FROM FIVE SAMPLING AREAS IN NIGERIA IN 2002⁴**

11. In response to the agreement of the 3rd CCCF to initiate work on the establishment of maximum levels and related sampling plans for fumonisins in maize and maize-based products, the IAEA is pleased to offer comments at Step 3 on the results of its Survey of Fumonisin B¹ Contamination of Food Grade Commercial Maize Kernel Lots from Five Sampling Areas in Nigeria⁵ for consideration by the 4th CCCF under Agenda Item 8, document CX/CF 10/4/8 – Add. 1.

⁴ Produced by the Food and Environmental Protection Laboratory in Seibersdorf, Austria, in collaboration with the Mycotoxin Unit, Oshodi Central Laboratories, NAFDAC, in Lagos, Nigeria.

⁵ The full report of the *Survey of Fumonisin B1 Contamination of Food-Grade Commercial Maize Kernel Lots from Five Sampling Areas in Nigeria in 2002* is available on request.