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codex alimentarius commission



FOOD AND AGRICULTURE
ORGANIZATION
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WORLD
HEALTH
ORGANIZATION



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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX ALIMENTARIUS COMMISSION

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INFORMATION ON ACTIVITIES OF THE JOINT FAO/IAEA PROGRAMME ON NUCLEAR TECHNIQUES IN FOOD AND AGRICULTURE RELEVANT TO CODEX WORK

1. Since 1964, the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture has been in a unique position to promote the mandates of both FAO, in its efforts to eliminate world hunger and poverty through sustainable agricultural development, improved nutrition and food security, and the IAEA, through peaceful uses of atomic energy to accelerate and expand the contributions of these technologies to health and prosperity worldwide.

2. The mission of the Joint FAO/IAEA Programme on Nuclear Techniques in Food and Agriculture is to strengthen capacities for the use of nuclear methods to improve technologies for sustainable food security and to disseminate these techniques through international activities in research, training and outreach in its Member States. The Joint FAO/IAEA Programme is subdivided into three major subprogrammes on sustainable intensification of crop production systems, sustainable intensification of livestock production systems, and strengthening compliance with food and environmental safety standards through good agricultural practices (hereinafter “food and environmental safety”). The FAO/IAEA Agriculture and Biotechnology Laboratory plays a key role in supporting the Joint FAO/IAEA Programme.

3. The Food and Environmental Protection Section of the Joint FAO/IAEA Division and the Agrochemicals Unit of the FAO/IAEA Agriculture and Biotechnology Laboratory implements the food and environmental safety subprogramme that provides assistance in four main areas, namely, coordinating and supporting research, providing technical and advisory services, providing laboratory support and training, and collecting, analysing and disseminating information, primarily in areas related to the use of ionizing

radiation, pesticide and veterinary drug residues, and radioactive contamination of foodstuffs. Highlights of some of the activities of this subprogramme are as follows:

Coordinated Research Project on Use of Irradiation to Ensure the Hygienic Quality of Fresh, Pre-Cut Fruits and Vegetables, and Other Minimally Processed Food of Plant Origin

4. Sales and consumption of fresh, pre-cut fruits and vegetables and other minimally processed food of plant origin continue to grow. Changes occurring in life and eating styles, as well as demographic changes, have been cited as some of the reasons for the increasing demand for this type of produce.

5. Since fresh fruits and vegetables are grown, processed or packaged in areas that may be exposed to microbiological pathogens, there is an increasing concern that these products may be contaminated. In fact, a number of outbreaks linked to the consumption of contaminated fresh, pre-cut fruits and vegetables have been reported. Prior to the coordinated research project, studies have been made on the efficacy of various chemical and physical methods of decontamination in destroying pathogens. The use of ionizing radiation seems to have several advantages in relation to other alternative treatments. However, more research was needed in order to demonstrate its efficacy without producing negative effects in the physiological traits of the fruit, and thus the commercial quality of these products.

6. The results of the studies contain data on the effect of ionizing radiation as a preservation method in more than 40 different types of produce and on more than 12 pathogenic bacteria. Irradiation proved to be an excellent process to improve the hygienic conditions and safety of fresh, pre-cut fruits and vegetables and other minimally processed food of plant origin. The doses applied for these purposes also extended the shelf-life of most of the produce studied.

7. An IAEA Technical Document (IAEA-TECDOC-1530) was published in December 2006. Further information is available at <http://www.naweb.iaea.org/nafa/fep/public/d5-tecdoc-1530.html>

Training Workshop — Introduction to Screening and Confirmatory Methodology for Veterinary Drug Residues

8. As part of the food and environmental safety subprogramme, the FAO/IAEA Training and Reference Centre for Food and Pesticide Control will hold a training workshop on Introduction to Screening and Confirmatory Methodology for Veterinary Drug Residues in Seibersdorf, Austria, 12–30 November 2007. The objectives of the workshop are to strengthen the awareness of developing country scientists and laboratory middle-management of the relevant guidelines and regulations and of the theoretical and technical aspects of screening and confirmatory methods for the detection of veterinary drug residues, to introduce the quality assurance/quality control principles according to ISO Standard 17025 that are relevant to veterinary drug residue analysis, and to discuss the various possible roles of quality assured laboratories in monitoring

the effectiveness of good farming practices. Further information will be posted on the Food and Environmental Protection website at <http://www-naweb.iaea.org/nafa/fep/index.html>

Coordinated Research Project on Applications of Radiotracer and Radioassay Technologies to Seafood Safety Risk Analysis

9. This coordinated research project (CRP) is a joint initiative of the IAEA Marine Environment Laboratories, Monaco, and the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture. The CRP was formulated in conjunction with representatives of the Joint Division, WHO and the Joint FAO/WHO Expert Committee on Food Additives (JECFA). There was agreement on the need to select and focus on specific contaminant/seafood combinations for those high value commodities encountering barriers to international trade. This decision was based on the evidence that particular edible marine species bioaccumulate certain contaminants to very high levels.

10. The CRP will focus on the following:

- the value of the applications of radioassay and radiotracer techniques to the study of the bioaccumulation and food-chain transfer of contaminants in seafoods, and the use of such data to underpin better exposure assessments as part of the risk analysis of contaminants in seafoods.
- harmful algal bloom paralytic shellfish poisoning toxin (PSP) and ciguatoxin.
- cadmium in oysters, scallops and cephalopods.

11. The data of the CRP will be generated on the basis of the Global Environment Monitoring System (GEMS). Account will be taken of Codex risk analysis principles and policy for exposure assessment of contaminants and toxins in foods or food groups applied by the Codex Committee on Contaminants in Foods. The CRP will facilitate consideration of its results within international standardization (Codex) and expert (JECFA) bodies. This includes the potential establishment of maximum levels through Codex for contaminants already evaluated by JECFA (e.g. lead, cadmium) as well as contaminants not evaluated to date (e.g. harmful algal blooms).

12. The CRP will include technically competent laboratories and contract holders from developing countries from various geographical regions. The first Technical Meeting to further define work plans will be held in Trieste, Italy, in November/December 2007, with financial support from the International Centre for Theoretical Physics (ICTP).

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