International Consultative Group on Food Irradiation: Role, achievements, and impact, 1984–88

by Dr N.W. Tape

In 1982, the Directors General of the Food and Agriculture Organization of the United Nations (FAO), the IAEA, and the World Health Organization (WHO) invited Member States of the three organizations to consider forming a consultative group to focus on international co-operation on food irradiation. It was conceived as an independent body composed of government-designated experts.

Upon receipt of a favourable response from 44 out of 45 Member States which replied to the invitation, the three UN organizations convened a meeting in 1983 to draft a Declaration establishing the International Consultative Group on Food Irradiation (ICGFI). The representatives of 19 Member States attending the meeting adopted the declaration. The Consultative Group, composed of representatives designated by each government, was established in May 1984 for an initial period of 5 years. The FAO, IAEA, and WHO, through the Joint FAO/IAEA Division, Vienna, serve as the Secretariat of ICGFI.

The first meeting of the Consultative Group, attended by 22 countries, was held in Vienna, December 1984.

Consultative Group functions

The functions of the ICGFI, as stated in the Declaration, are:

- to evaluate global developments in the field of food irradiation;
- to provide a focal point of advice on the application of food irradiation to Member States and the three organizations; and
- to furnish information, as required, through the organizations, to the Joint FAO/IAEA/WHO Expert Committee on the Wholesomeness of Irradiated Food and the Codex Alimentarius Commission.

The ICGFI addresses matters such as the safety assurance of the process, legislation, public information, technical/economic feasibility, training, and international trade.

* Dr Tape (Director, Food Research Centre, Agriculture Canada, Ottawa, Canada K1A 0C6) is the current Chairman of ICGFI. This article is adapted from a document by Dr Tape presented to the ICGFI for consideration at its 5th Annual Meeting, Vienna, 6–8 September 1988. The document provided a basis for the recommendation of the group's government-designated experts to extend ICGFI's mandate for another 5 years, i.e., to May 1994.

Membership and resources

The Group is presently composed of 29 Member States, more than half being developing countries. The Joint Secretariat, composed of representatives from FAO, WHO, and the IAEA, supports the elected officers and Member States of the Consultative Group. Representatives from the Netherlands and Canada have served as ICGFI Chairman.

The following countries are members of ICGFI: Argentina, Australia, Bangladesh, Belgium, Canada, Chile, Egypt, France, Federal Republic of Germany, Ghana, Hungary, India, Indonesia, Iraq, Israel, Italy, Malaysia, Mexico, Netherlands, New Zealand, Pakistan, Philippines, Poland, Syria, Thailand, Turkey, UK, USA, and Yugoslavia.

The sponsoring organizations provide meeting facilities and services. Each member country annually contributes funds and/or "in-kind" to support the Group's activities (current contributions are approximately US $120 000 in cash and US $176 000 "in kind"). Annual meetings are held at the IAEA, Vienna.

Achievements

Participation and benefits. Membership in the Group provided member countries with direct access to up-to-date information on safety, legislation and regulations, technical and economic feasibility, public information, training programmes, as well as the nature and extent of trade in irradiated foods. In addition, governments had the opportunity to participate in the planning and implementation of the Group's programme of work. The membership has grown from 19 to 29 Member States. Several countries are presently considering membership. Representatives of other UN and international organizations also have attended the annual meetings, such as the International Trade Center of UNCTAD/GATT; the International Finance Corporation of the World Bank; the Commission of the European Communities; the Association of International Industrial Irradiation; and the International Facility for Food Irradiation Technology. At the fourth meeting (1987) of ICGFI, it was decided to invite a representative of the International Organization of Consumer Unions to participate as an observer.

Hungary is among a number of countries where consumers have been introduced to irradiated foods in the market place.

Safety assurance of the process. Work has been done in several areas:

- *Use of irradiation to ensure hygienic quality of food.* A task force meeting was organized on this subject and the report was published by the WHO under the scope of ICGFI.* The report highlighted the social and economic consequences of foodborne pathogenic diseases and the need for irradiation processing to overcome these problems.
- *Safety and wholesomeness of irradiated foods.* A fact sheet entitled "Safety and Wholesomeness of Irradiated Foods — Facts and Figures" was issued by ICGFI in 1987 to assist its member countries in informing the public on the safety of the food irradiation process.
- *Food irradiation process control school (FIPCOS).* ICGFI prepared a curriculum for FIPCOS with a view to developing a training programme leading to the certification of supervisors/operators of irradiators which treat food on a commercial basis. The school will also train food inspectors on proper control procedures required for food irradiation processing. The establishment of FIPCOS should assist national authorities in having adequately trained and competent manpower to operate irradiation facilities as specified in the Codex General Standard for Irradiated Foods. In addition, two training manuals for supervisors/operators and food control officials are being prepared under the scope of FIPCOS.
- *Compilation and evaluation of wholesomeness data on irradiated foods (above 10 kGy).* Toxicological data have been compiled. Data on radiation chemistry, nutrition, and microbiological aspects of food treated above 10 kGy are being compiled. These data will be made available to FAO, IAEA, and WHO for their consideration in convening the next Joint Expert Committee on the Wholesomeness of Irradiated Foods at a suitable date.
- *Technological guidelines for food irradiation application.* To facilitate trade by harmonization of international standards and procedures, the following guidelines have been prepared by ICGFI for publication: (1) Guideline for the Irradiation of Cereal Grains for Insect Disinfestation; (2) Guideline for the Irradiation of Fresh Fruits for Insect Disinfestation (As a Quarantine Treatment); (3) Guideline for the Irradiation of Bananas, Mangoes, and Papayas for Shelf-life Extension (By Delay of Ripening); (4) Guideline for Irradiation of Bulb and Tuber Crops to Inhibit Sprouting; (5) Guideline for the Irradiation

* See WHO/ENE/FOS/87.2.

of Spices and Vegetable Seasonings (To Control Microflora); (6) Guideline for the Irradiation of Fresh and Frozen Red Meats and Chicken (To Control Microflora); (7) Guideline for the Irradiation of Fresh Fish and Storage Under Refrigeration, and for Frozen Frog Legs and Shrimps (To Control Microflora); (8) Guidelines for the Irradiation of Dried Fish, and Dried and Salted Fish for Insect Disinfestation.

Legislation. Work in this area has covered:

- *Legislation in the field of food irradiation.* A survey of legislation and regulations in Member States of FAO, IAEA, and WHO was conducted to foster harmonization of legislation in the field of food irradiation, and thus facilitate international trade in irradiated foods. The report has been published by IAEA, under the scope of ICGFI, and distributed to Member States.*
- *Model regulation for licensing food irradiation facilities.* A document proposing model regulations for use by national authorities involved in the licensing of food irradiation facilities has been prepared for publication.
- *Codex committee for labelling of prepackaged foods.* Based on the recommendations of a number of ICGFI task forces, a document was prepared proposing amendments on some provisions concerning irradiated foods of the Codex General Standard for the Labelling of Prepackaged Foods. This was to be considered at the meeting of the Codex Committee on Food Labelling in March 1989.

Public information. Work has included:

- *Video programme on food irradiation.* A video programme entitled "Food Irradiation — A New Way to Process Foods" was produced in 1987 and distributed to all member countries of ICGFI.
- *Informative brochures on food irradiation.* Four brochures on the different aspects of food irradiation, i.e. foodborne diseases, safety and nutrition, food loss, and food trade, have been prepared. The brochures will be distributed to industry and professional organizations.
- *Informative brochure on food irradiation for the food industry.* This brochure has been prepared for distribution to the upper and middle management levels of the food industry.
- *Task force meeting on public information.* A report of the Task Force Meeting on Public Information of Food Irradiation which was held in France in April 1988 is being prepared for publication.

Techno-economic feasibility. A "Handbook for Conducting Feasibility Studies" was prepared from the Proceedings of the First Workshop on Economic Feasibility of Food Irradiation Applications, organized by the International Facility for Food Irradiation Technology (IFFIT) under the auspices of ICGFI, in Wageningen, 25 August to 5 September 1986, and was published by the USA as a contribution to ICGFI.

Training. Work has covered:

- *Food irradiation workshop for food control officials.* This training workshop was hosted by Hungary on behalf of ICGFI in Budapest, 18-22 May 1987. Participants, including food control officials from France, Indonesia, Israel, Mexico, Netherlands, Poland, Thailand, USA, and Yugoslavia, as well as eight observers from Hungary, participated in the workshop.
- *Workshop on the use of irradiation as a quarantine treatment for Latin America.* This workshop was held in Santiago, Chile from 30 November to 4 December 1987, in co-operation with the Inter-American Institute for Co-operation on Agriculture (IICA) and the Comisión Chilena de Energía Nuclear (CCHEN). Eleven participants from eight countries in the region attended the workshop.
- *Workshop on the use of irradiation to ensure hygienic quality of food.* This workshop was held at IFFIT, Wageningen in March 1988. Nineteen participants from 19 countries attended the 10-day workshop.
- *Workshop on food irradiation.* ICGFI conducted a workshop during the Sixth Session of the Codex Co-ordinating Committee for Asia (26 January to 1 February 1988) in Denpasar, Bali, Indonesia. Thirty participants, most of whom are food control officials from Asian countries, attended the workshop.
- *Workshop on economic feasibility of food irradiation.* This workshop was held at the Soreq Nuclear Research Center, Yavne, Israel, from 24 January to 4 February 1988. It was co-sponsored by the Israeli Government which supported all local costs of participants from Africa, Latin America, and developing countries in Europe, as its "in-kind" contribution to ICGFI.
- *Food irradiation process control school (FIPCOS).* The first process control course was scheduled for October 1988 at the Canadian Irradiation Centre, Laval, Québec, Canada.

International trade. Activities have included:

- *International Conference on the Acceptance, Control of, and Trade in Irradiated Foods, Geneva, 12-16 December 1988.* ICGFI assisted the Joint Secretariat (FAO, IAEA, ITC of GATT, and WHO) in planning the conference. ICGFI prepared the introductory audio-visual presentation for the conference.

* See IAEA-TECDOC-422.

- *Inter-American trade co-ordination seminar.* To focus attention of local potential trading partners on implementation of conclusions and recommendations of the 1988 International Conference on the Acceptance, Control of, and Trade in Irradiated Foods, Geneva.
- *Trade promotion of irradiated food.* This report has been published by the IAEA under the scope of ICGFI.*
- *Irradiation as a quarantine treatment.* The report of the Task Force Meeting on this subject was published by the Secretariat of ICGFI.
- *Guidelines for acceptance of food irradiation.* The report of the Task Force Meeting on Marketing/Public Relations of Food Irradiation (Ottawa, Canada, 15–19 September 1986) was published by the IAEA under the scope of ICGFI.** The Task Force was hosted by Agriculture Canada.

Inventories. ICGFI maintains inventories on the following aspects of food irradiation: inventory/registry of licensed food irradiation facilities; inventories of product clearances and irradiation facilities; and inventory of national legislations and regulations.

Impact of the Consultative Group

ICGFI has assisted governments, UN agencies, industry, and consumers to consider safe, effective applications of food irradiation technology in ways which will enhance world food supply, reduce food waste, reduce the risk from food-borne pathogens, and provide an alternative to some chemicals in agriculture and fishery products.

The Group has had a positive impact on the assessment of issues related to the safety, advantages, limitations, and feasibility of food irradiation technology by the following actions:

- Facilitating wider participation and objective discussion by organizing international fora for review, assessment, and elaboration of recommendations;
- Raising the level of knowledge of irradiation technology and its benefits, limitations, safety assessments, and costs by preparing and distributing background information and inventories;
- Facilitating improved regulatory control and acceptance of food irradiation by preparing and publishing inventories of national legislations, licensed facilities for treating foods on commercial or pilot scale, product clearances, etc.;
- Providing information and advice on applications such as use of radiation to enhance hygienic quality of food, quarantine treatment of agricultural commodities, etc.;
- Assisting national authorities, industry, and other interested parties to carry out feasibility studies — e.g., by preparing and publishing a handbook on conducting feasibility studies, as well as organizing training courses on economic considerations;
- Promoting technology transfer and training by organizing training courses and workshops for regulators, inspectors, managers, and operators;
- Ensuring continued maintenance and assessment of wholesomeness data on irradiated products; and
- Facilitating international trade of irradiated foods by organizing regional seminars, developing technological guidelines for application of the technology, and assisting the Codex Alimentarius Commission to develop appropriate labelling standards.

Future work

While considerable progress has been made in informing and advising governments, industry, professionals, and consumers on the utility and limitations of food irradiation, there is a continuing need for an advisory group.

The need for and role of ICGFI remain the same today as they were in 1983 when the Directors General of the three sponsoring agencies invited Member States to consider forming an international group. The areas of activity remain the same: safety assurance of the process; legislation; public information; techno-economic feasibility; training; and international trade.

* See IAEA-TECDOC-391.
** See IAEA-TECDOC-432.