

Foreword on Food Irradiation

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Summary

“Food irradiation” is a technology to treat foods with ionizing radiation, and the foods irradiated by ionizing radiation is named as “irradiated food”. Ionizing radiation is an effective tool for the sanitization of food. It gives a germicidal effect and induces a change in metabolism. The biological effect of irradiation improves the safety and shelf life of food. Also, chemical and physiological changes in food induced by irradiation enhance food quality.

Securing the “food supply” and ensuring “food safety” are critical issues facing the world. In order to offer its readership the opportunity to consider this issue, FFIJ has prepared a special feature on “food irradiation”, which is one of the practical solutions to these problems. Major irradiation technical problems, such as devices and conditions, have been resolved. Many international organizations have approved the safety and usefulness of food irradiation and recognize it as a sound food-preservation technology. According to IAEA information, 53 countries permit the use of food irradiation by law. 230 items are legally authorized, which are commercially available in about 30 countries.

Japan has a 50 year history of food irradiation research.

Since “Research and Development of Irradiated Food Project” was taken over as the national project in 1967, many researchers have been engaged in the project. They invented the irradiation of potato for preventing germination. It was legally authorized in 1972, and Japan began commercial production of irradiated potato in 1974. About 1.5 tons of potato are annually irradiated in the Shihoro plant in Hokkaido.

However, after 1974, the number of researchers drastically decreased and no practical irradiation processes have been invented. The irradiation food industry in Japan has been declining. Japan is now far behind other countries and it is called a “food irradiation undeveloped country”.

In order to break through the current backward situation, FFIJ has planned this special feature and asked seven specialists to commentate on the usefulness and wholesomeness of irradiated food and the methods of detection. This special edition introduces the facts related to food irradiation objectively, based on scientific data.