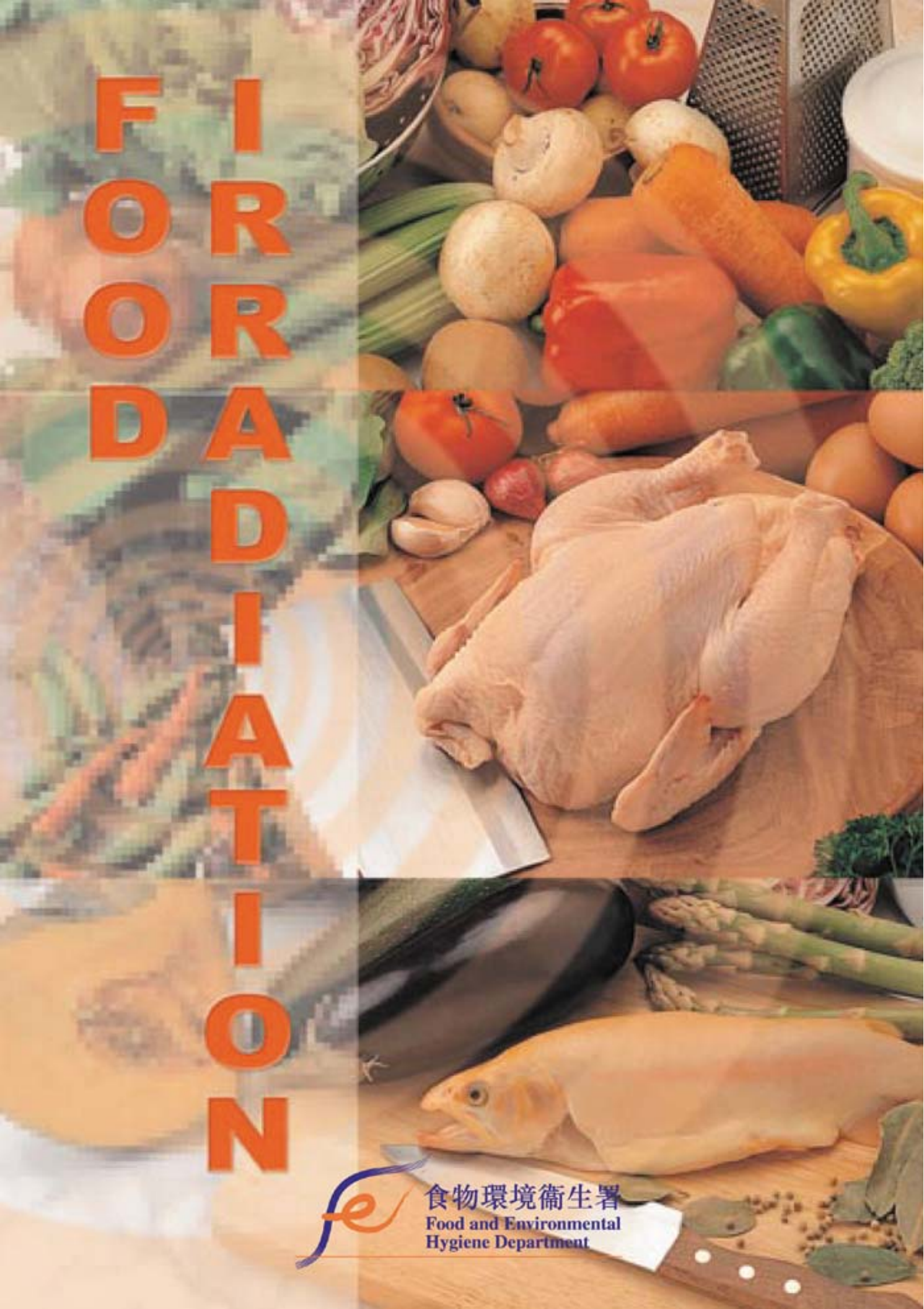
FOOD IRRADIATION



食物環境衞生署
Food and Environmental Hygiene Department

I. What is food irradiation?

Food irradiation is a food processing technology which involves treating certain types of food with ionizing radiation.

II. How does irradiation work?

Food is packed in containers and moved by a conveyor belt into a shielded room. The food is then exposed briefly to a radiant-energy source, that is, ionizing radiation, and the amount of energy depends on the type of food. The ionizing radiation is usually generated from radioisotope sources such as Cobalt-60 or machine sources such as electrons and X-rays. Energy waves pass through the food and break the DNA of bacteria and insects. These organisms would then die or be unable to reproduce. Eventually, the number of harmful bacteria, parasites and fungi is reduced and may be eliminated, but the food is left virtually unchanged.

III. What are the uses of food irradiation?

Food irradiation helps lengthen shelf-life through reducing biological hazards and slow down the ripening of fruits and vegetables. For example, irradiation helps reduce the amount of bacteria and parasites that may cause human illnesses in dry herbs, spices and chickens. It can also make food last longer by destroying or inactivating insects, moulds and yeasts that spoil food, by delaying the ripening of fruits and vegetables, as well as by limiting unwanted sprouting of potatoes and similar vegetables.

IV. Does irradiation destroy all bacteria?

The energy level normally used in food irradiation would destroy most but not necessarily every single microorganism present. After treatment, the pathogens and food spoilage organisms may start to multiply again if the food is not properly handled. Like the preparation of non-irradiated food, you should store, handle and cook irradiated food properly to eliminate potential risk (caused by pathogenic microorganisms) to your health.

V. Is irradiated food safe for consumption?

Reports of the World Health Organization show that food irradiated by an appropriate dose of irradiation to achieve the intended objective is both safe to consume and nutritionally adequate, and is without any noticeable change in taste, texture or appearance.

The food does not become radioactive after the irradiation process. The reasons are:

- The sources and levels of the radiation are not energetic enough to make food radioactive.
- The food never comes into direct contact with the radioactive source during the irradiation process.

Three international agencies, namely the World Health Organization, the Food and Agricultural Organization and the International Atomic Energy Agency, have accepted the safety and usefulness of food irradiation.

VI. How is food irradiation controlled in Hong Kong?

According to the Food and Drugs (Composition and Labelling) Regulations in the Public Health and Municipal Services Ordinance (Cap. 132), every container containing irradiated food shall be clearly and legibly marked with the words "IRRADIATED" or " TREATED WITH IONIZING RADIATION " in English capital lettering and "輻照食品" in Chinese characters. Any person who contravenes this provision shall be liable to a maximum fine of $ 50,000 and an imprisonment for six months.

ENQUIRIES

Food and Environmental Hygiene Department

- **Hotline : 2868 0000**
- **Communication Resource Unit : 2381 6096**

Published by the Food and Public Health Branch,
Food and Environmental Hygiene Department
Printed by the Government Logistics Department (02/06)