



Facts about Food Irradiation

Q:

A:

1 Is there any risk in irradiating foods in contact with plastic or other packaging materials?

Packaging of Irradiated Foods

1 No. Results of extensive research have shown that almost all commonly used food packaging materials tested are suitable for use at doses up to 10 kilogray, which is the internationally approved limit for irradiating foods.

Various types of packaging materials have been approved for use when food is irradiated. Their suitability for food intended for irradiation has been studied in Canada, the United Kingdom, the United States, and a few other countries. A number of food packaging materials were approved for use in food irradiation by the US Food and Drug Administration more than 20 years ago. More recently, Canada has approved additional materials, including a multi-layered polyethylene film, as safe for packaging foods which will be irradiated.

Sophisticated tests have been used to evaluate the effect of radiation on plastic and other types of packaging materials. Researchers look at the material's post-irradiation stability, mechanical strength, and permeability to water and gases, and at the extractability of the plastics, additives, and adhesives. ■

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ICGFI is an international group of experts designated by Governments to evaluate and advise on global activities of food irradiation. It was established under the aegis of the Food and Agriculture Organization of the United Nations, World Health Organization, and International Atomic Energy Agency.



2 Are irradiated materials used to package foods?

2 Yes. Laminated plastic films with aluminium foil are routinely sterilized by radiation. They are used for hermetically sealed "bag-in-a-box" products, such as tomato paste, fruit juices, and wines. Other aseptic packaging materials, dairy product packaging, single-serving containers (for example, for cream), and wine bottle corks are also sterilized by irradiation prior to filling and sealing to prevent product contamination.

Scientific and Technical References:

"Packaging Irradiated Food", by J.J. Killoran. *Preservation of Food by Ionizing Radiation*. E.S. Josephson and M.S. Peterson, editors. CRC Press, Boca Raton, Florida (1983).

"Food Packaging Materials and Radiation Processing of Food: A Brief Overview", by N. Chuaqui-Offermans. *Radiation Physics and Chemistry*, 34 (6) (1989).

Other types of materials used to wrap food or other products also are routinely processed by radiation in many countries. The radiation process is used to "crosslink" the material's polymer chains for greater strength and heat resistance, and for producing plastics with special properties (for example, shrink wrap). ■

Irradiated strawberries on sale in France (CEA).



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