



Fresh Facts for Industry: Irradiation

- Food irradiation is a food safety and preservation technology, similar to pasteurization. While pasteurization uses heat to kill microorganisms, irradiation uses a form of energy called ionizing radiation. The process involves exposing food, either in bulk or packaged, for a specified amount of time to gamma rays, X-rays, or electron beam radiation. The effects of irradiation on the food and on animals and people eating irradiated food have been studied extensively.
- Irradiation has been shown to be a safe and effective tool that can help to prevent many food borne diseases.

Why is it important?

Food irradiation has several benefits:

- It reduces the potential for food related illness by reducing the level of bacteria and parasites that contaminate food and cause food borne illness;
- It increases shelf life by slowing down the ripening or sprouting of certain fruits and vegetables; and
- It presents an effective treatment for post-harvest damage by destroying bacteria, molds and yeast which cause food to spoil, and control insect and parasite infestation.

The effect of irradiation processing on food has been investigated more thoroughly than any other food technology. The irradiation process produces very little chemical change in food, and does not change the nutritional value of food. Extensive research and testing has demonstrated that irradiated food is safe and wholesome.

While irradiation kills most of the microorganisms present in food, it does not necessarily sterilize the food. Consumers must still take appropriate precautions, such as refrigeration, and proper handling and cooking as they do with all foods.

What You Need to Know

Canada first approved the irradiation of potatoes to inhibit sprouting in 1960. Since then, other food products have also been examined by **Health Canada** and have been approved for irradiation. These include onions, wheat, flour, whole wheat flour, whole and ground spices, and dehydrated seasoning preparations. Canadian (or The *Food and Drug Regulations*) Regulations require all foods processed by irradiation to be labelled with an international symbol for irradiation and the words "treated by irradiation", "treated with radiation" or "irradiated".

Irradiation facilities for food are also being operated safely. The facilities, equipment and operators are governed under the *Nuclear Safety and Control Act* and related Regulations and must all be licensed by the Canadian Nuclear Safety Commission (CNSC) which imposes strict safety rules based on international guidelines. These rules also include specific directives on the transportation and disposal of the radio-isotopes used for food irradiation. Transportation and disposal of food radioisotopes used for food irradiation are governed by strict local and international safety rules.

From a safety perspective, the **Health Products and Food Branch** of **Health Canada** is responsible for the regulations specifying which foods may be irradiated and the treatment levels permitted under the *Food and Drugs Act*. CFIA is responsible for the administration of the regulations relating to the labelling of irradiated food products under the *Food and Drug Act*. The **Radiation Protection Bureau (RPB)** of **Health Canada** is responsible for assessing, communicating and reducing the health risks associated with exposure to ionizing radiation, and the **Canadian Nuclear Safety Commission (CNSC)** regulates the use of nuclear energy and materials in accordance to Canada's international commitments.

Any Canadian food irradiation facility must comply with the above Regulations. All irradiated food must also be approved for irradiation in Canada by Health Canada, and must comply with the *Food and Drugs Act* and Division 26 of the *Food and Drug Regulations*, including the applicable labelling requirements. Only certain foods are approved for irradiation in Canada. For a complete list of approved foods, contact [Health Canada](#).

CPMA Contacts and Other Resources

For more information, please contact CPMA at question@cpma.ca or use the following resources.

- [Canada's Food and Drugs Act & Regulations](#)
- [Food Irradiation, Health Canada](#)
- [Food Irradiation, Canadian Food Inspection Agency](#)
- [Recommended Code of Practice for Food Irradiation, Health Canada](#)
- [Frequently Asked Questions – Food Irradiation – Health Canada](#)