

INFORMATION FOR CONSUMERS

As a consumer in New Zealand you have a right to know where your food comes from, and how it has been treated.

On 31 July 2013, permission in the joint Australia New Zealand Food Standards Code to irradiate was extended to tomatoes and capsicums for the purpose of controlling fruit fly.

On 14 August 2013 a new Health Import Standard 1.5.3 of the Food Standards Australia New Zealand (FSANZ) Code came into effect thus allowing these foods to be imported into New Zealand.

If you identify a retailer or food service provider selling irradiated produce without the required labelling you can register your complaint at the Ministry for Primary Industries, by contacting the Food Safety hotline on 0800 693 721, or by email: info@mpi.govt.nz

Below are a list of questions, we hope will be able to help learn more about irradiation, the treatment and its labelling requirements.

- **What is irradiation?**
- **What foods are irradiated currently?**
- **What is New Zealand's existing policy on food irradiation?**
Are irradiated foods safe?
- **Food irradiation - how does it work?**
- **Does irradiation cause the food to become radioactive?**
Can irradiated foods be distinguished from other foods?
- **How will I know what foods have been treated with irradiation?**

What is irradiation?

Food irradiation is a non-chemical process that treats certain types of food with radiation energy. The radiation is produced either by a cobalt 60 source which emits gamma rays or by electron beams from machines which produce high energy electrons or X-rays.

Food irradiation can be used for the purposes of:

- food safety – making the food safer for consumers by reducing microbiological risk
- food preservation – increasing the shelf life of a product by destroying or inactivating enzymes, insects, moulds and yeast that spoils food
- biosecurity – preventing the entry of viable insect pests into our environment

What foods are irradiated currently?

New Zealand already accepts a number of irradiated tropical fruit from Australia that we don't grow in New Zealand such as; mango, papaya and custard apple. These fruits are required to have mandatory labelling.

What is New Zealand's existing policy on food irradiation?

Under the Australia New Zealand Food Standards Code there are a small number of foods that can be irradiated. The Code currently permits the irradiation of herbs, spices, herbal infusions, selected tropical fruits, persimmons, tomatoes and capsicums. The Code permissions are subject to dosage requirements expressed in Gray (Gy) units.

Where foods have been irradiated the Code requires these foods to carry a label so consumers can choose if they want to eat irradiated foods. For items such as fruit that do not carry labels, a statement must be displayed beside the food to say it has been treated with ionising radiation.

Under our food laws, irradiation can be used to treat specific foods only after Food Standards Australia New Zealand (FSANZ) has conducted a safety assessment. FSANZ only approves irradiation where it concludes this treatment would be safe and would not impact nutrient levels any more than other pest control and food safety treatments.

Are irradiated foods safe?

The overwhelming consensus of the scientific community is that irradiation produces safe and nutritious food when carried out in accordance with specified standards.

Over 50 years of research shows that even foods exposed to high doses of irradiation are safe, wholesome and nutritionally adequate. The safety and nutritional adequacy of irradiated foods has been more intensively studied than any other food processing method. Research indicates it is as safe as any other conventional processes such as canning, freezing and pasteurisation, provided that good manufacturing procedures are followed.

Food irradiation - how does it work?

Food is irradiated by exposing it to a source of ionising radiation. The ionising radiation usually is in the form of gamma rays from a source of cobalt-60, or from a non-radioactive source (electron beam and Xrays) generated from electricity.

As the gamma rays pass through the food the radiation damages the genetic material of the contaminating organisms so that they can no longer survive or multiply. Like pasteurisation, it can make the food safer to eat by destroying bacteria.

Unlike pasteurisation, it can be used on solids as well as liquids.

Different doses of ionising radiation have different effects. At low doses, irradiation lengthens the shelf-life of certain foods such as strawberries and prevents sprouting of potatoes. At higher doses, irradiation helps reduce amounts of harmful bacteria on foods such as dried herbs and spices and chicken.

Does irradiation cause the food to become radioactive?

The food does not become radioactive for two reasons. Firstly, the gamma rays from cobalt-60 used in food irradiation are not energetic enough to make foods radioactive. Secondly, as the food never comes into direct contact with the source, it is not possible for the food to become contaminated with the radioactive material.

Why is food irradiation important to our export/import markets?

New Zealand and many of its export markets guard against the importation of exotic insect pests by requiring a post-harvest disinfestation treatment of commodities that can carry pests (e.g. some fresh fruits, vegetables, nuts, cereals and grains).

Without the ability to permit the sale of irradiated foods, New Zealand would be dependent on chemical alternatives to safeguard certain foods while other countries are phasing out or banning the use of these chemicals.

New Zealand does not export irradiated fresh produce, as no food irradiation facilities are approved in New Zealand. Imported fresh produce must comply with the requirements of any relevant import health standard. Irradiation can be used as a biosecurity treatment for imported fresh produce (e.g. fruit fly) but only where this has been specifically permitted in an import health standard.

The Ministry for Primary Industries (MPI) is responsible for the development of import health standards. Currently there are import health standards for irradiated tomatoes, capsicums, mangoes, lychees, papaya from Australia and irradiated mangoes from Vietnam.

Can irradiated foods be distinguished from other foods?

Irradiation produces small changes in food, but generally the constituents of irradiated foods are not unique and cannot be distinguished from those in other foods, either non-irradiated or processed by other methods. However, tests are now available to detect irradiated foods in most situations. It may not always be possible to detect an irradiated ingredient when it is a minor food component of a larger food product or if, for example, an irradiated spice is blended with a large volume of non-irradiated spice.

The consumer would not be able to detect that a food has been irradiated.

How will I know what foods have been treated with irradiation?

All irradiated foods must be labelled so that consumers can make an informed choice.

Other sources of information:

- [Labelling requirements for irradiated foods - information for food businesses](#)
- [Food Standards Australia New Zealand](#)
- [Ministry of Health](#)
- [GNS Science](#)
- [National Radiation Laboratory](#)
- [Facts about food irradiation \(PDF\)](#) A series of Fact Sheets from the International Consultative Group on Food Irradiation