



FOOD IRRADIATION FACT SHEET

What is irradiation?

Irradiation is the process of exposing a product to radiation, generally for sterilisation purposes. There are currently three operating commercial irradiation facilities in Australia. All three are nuclear irradiation facilities, using Gamma radiation from radioactive Cobalt-60. A fourth irradiation facility, an X-ray beam facility is proposed for northern Queensland. Irradiation facilities can irradiate a wide-range of consumer products. The latest venture of the commercial irradiation industry in Australia is food irradiation.

What foods may be irradiated?

Food Standards Australia New Zealand has so far approved:

Herbs, spices, and herbal infusions
tropical fruits - breadfruit, carambola, custard apple, litchi, longan, mango, mangosteen, papaya and rambutan

However, irradiated products may enter the food chain through sources which are not legally classified as "food":

Therapeutic products and pharmaceuticals may be irradiated. Cereal and grain fed to meat animals and beehives may be irradiated.

What other commercial products may be irradiated?

Unfortunately there is no publicly available list of what products are currently being irradiated in Australia. However, company promotional material gives insight into what may be treated with radiation. While some irradiated medical products are labelled "sterilised with gamma radiation", most irradiated products are not labelled.

Besides herbs and spices, Australian gamma irradiation company, Steritech Pty. Ltd (steritech.com.au) promotes itself as a place to irradiate:

- Cereals and grains
- Medical products and medical supplies
- Cosmetics and sanitary preparations
- Pharmaceutical raw materials and veterinary products
- Pet food
- Packaging materials, nylon, polystyrene and polyethylene
- Plastics
- Wine corks
- Animal feed
- Beehives
- Quarantine items



They have begun irradiating tropical fruit as well.

US, food irradiation company Food Technology Service (www.foodtechservice.com) is more detailed in its promotional list:

Medical and personal hygiene products including: blood plasma, burn ointments, catheters, eye ointment, hypodermic syringes, orthopedic implants, intravenous administration sets, surgical drapes, sponges & swabs, surgeons' gloves, procedure packs, trays and sutures.

Commercial products including: aerosol saline solutions, baby bottle nipples, baby powder, bulk cotton bales, contact lens cleaning solutions, cosmetic ingredients, bar and liquid soap, detergents, polishes, shampoos and hair cream.

Food Packaging including: bulk food containers, cream cups and lids, dairy & juice cartons, plastic roll stock, heat shrinkable film and laminated foil bags.

Are there any risks in associated with handling irradiated products?

Recent attempts to use irradiation to prevent Anthrax distribution through the US mail uncovered a host of problems related to irradiation. Postal and other government employees reported suffering ill effects of handling irradiated mail: including respiratory problems, skin rashes, headaches, nausea, and bloody noses. Tests on recyclability of irradiated paper have shown irradiation to significantly damage paper and alter its quality. More research needs to be done into the handling and use of irradiated products.

References:

Public Citizen April 23, 2002 Questions and Answers about mail irradiation. www.citizen.org/documents/mailirradiationqanda.PDF
Center Keeley, Roy F. Weston, Inc. and Guay, PhD., Integrated Paper Services, Inc. Project Summary Impact of irradiation on the Recyclability of Mail, White House Conference 16 May 2002 www.citizen.org/documents/Recyclability%20of%20irradiated%20mail.pdf

Food irradiation trends in the USA

While the EU has banned any further irradiation approvals, the US is pushing ahead with the technology. Recent trade agreements with the USA, may see Australia follow US trends in irradiation approvals.

Foods approved for irradiation in the USA:

- Beef (and beef byproducts)
- Eggs
- Enzymes (dry and hydrated)
- Fruit (domestic and imported)
- Fruit juice
- Garlic powder
- Herbs (dried)
- Horsemeat (and horsemeat byproducts)
- Lamb (and lamb byproducts)
- Onion powder
- Pork (and pork byproducts such as bacon)
- Potatoes
- Poultry
- Sprouting seeds
- Spices (dried)
- Vegetables (domestic and imported)
- Vegetable juice
- Vegetable seasoning (dried)
- Wheat flour

Foods currently being irradiated and sold (2004) in the USA:

Apples, Beef, Chicken, Eggs, Garlic, Grapefruit, Herbs, Mangoes, Onions, Oranges, Papayas, Potatoes, Spices, Strawberries, Tomatoes.

Foods pending approval for irradiation in the USA:

- Beef (unrefrigerated)
- Clams
- Crabs
- Crustacean shellfish
- Deli meats
- Frozen foods
- Lamb (unrefrigerated)
- Lobster
- Oysters
- Molluscan shellfish
- Mussels
- Pork (unrefrigerated)
- Ready-to-eat foods
- Salads (packaged)
- Shrimp

Source for US irradiated food list: www.sustainabletable.org/issues/irradiation/

Non-retail irradiated food is being marketed in the USA for:

Hospital food and nursing homes, Military rations, Institutional meals, School food