



# Facts about Food Irradiation

## Q:

**1** Will irradiation increase the cost of food?

## Food Irradiation Costs

## A:

**1** Any food process will add cost. In most cases, however, food prices would not necessarily rise just because a product has been treated. Many variables affect food costs, and one of them is the cost of processing. Canning, freezing, pasteurization, refrigeration, fumigation, and irradiation will add cost to the product. These treatments will also bring benefits to consumers in terms of availability and quantity, storage life, convenience, and improved hygiene of the food.

Broken down, irradiation costs range from US \$10 to \$15 per tonne for a low-dose application (for example, to inhibit the growth of sprouts in potatoes and onions) to US \$100 to \$250 per tonne for a high-dose application (for example, to ensure hygienic quality of spices). These costs are competitive with alternative treatments. In some cases, irradiation can be considerably less expensive. For disinfestation of fruit in Thailand and the United States, for example, it has been estimated that the cost of irradiation would be only 10%-20% of the cost of vapour-heat treatment. ■



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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** How much does a typical food irradiation facility cost?

**2** The cost to build a food irradiation plant is in the range of US \$1 million to \$3 million, depending on its size, processing capacity, and other factors. This is within the range of plant costs for other food technologies. For example, a moderately-sized, ultra-high temperature plant for sterilizing milk, fruit juices, and other liquids costs about US \$2 million. A small vapour-heat treatment plant for disinfestation of fruits costs about US \$1 million. ■

### Scientific and Technical References :

Morrison, R.M. and Roberts, T., "Cost variables for Food Irradiators in Developing Countries", *Food Irradiation for Developing Countries in Africa*. IAEA TECDOC-576 (1990).

*Handbook for Conducting Feasibility Studies*. Proceedings of a Workshop on Economic Feasibility of Food Irradiation. ICGFI (1986).