

What are the food products that have been irradiated at PNRI's irradiation facility on a semi-commercial scale?

- Spices and dehydrated vegetables: ground black and white pepper, cayenne powder, turmeric powder, onion powder, garlic powder, ginger powder, tamarind powder, chives and other condiments.
- Bulbs: fresh onions and garlics
- Frozen fruits

What other food commodities that can be treated with radiation?

- Fish: fresh smoked, dried
- Frozen shrimp
- Fresh fruits: mangoes, papayas, bananas
- Grains: rice, corn and mungbeans
- Fresh vegetables: mushroom, and potatoes
- Meat and meat products: hotdogs and beef patties
- Poultry

What is the status of food irradiation Utilization in the Philippines?

Regulations

Administrative Order (AO) No 152 "Prescribing Regulations on Irradiated Food: was approved by the Department of Health in 2004. The AO aims to ensure the safe supply of irradiated food and to prevent undue risks to safety and public health in the application of ionizing radiation to reduce food wastage due top insects and microorganisms.

The Bureau of Plant Industry (BPI) Administrative Order No. 02 was approved in 2008. This AO pertains to rules and regulations for the importation, exportation and domestic movement of irradiated plants and plant products and the use of irradiation as play to sanitary treatment.

Irradiation Facility

The PNRI operates a multipurpose gamma irradiation facility which can be used for the irradiation of food and agricultural products. The facility was upgraded to semi-commercial scale to improve the performance of the irradiator, resulting in a higher throughput of the facility. The upgraded facility is used to meet the increasing demand of food and medical industries for irradiation of their respective products.



What is the status of food irradiation utilization worldwide? Around 50 countries have approved irradiated food products and 35 of these countries are using the technology to treat a variety of food and food ingredients for commercial purposes. Spices and dried vegetable seasonings are the most common products commercially irradiated, especially after the ban of ethylene oxide fumigation by the European Community since 1991.



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Irradiation for Food Safety and Quality

• Safe • Reliable • Clean



The Radura Logo
(The International
Food Irradiation
Symbol)

An alternative method of food preservation is gaining recognition in many countries worldwide. This method, called food irradiation, is used to prolong the shelf-life of many food and agricultural products, destroy bacteria and other microorganisms in food and disinfest grains such as rice and corn. The Philippine Nuclear Research Institute (PNRI) of the Department of Science and Technology is the lead agency in the country in research and development work on food irradiation.

What is food irradiation?

Food irradiation is a process of exposing food to high energy ionizing radiation (e.g. gamma rays and electron beam), either pre-packed or in bulk, in an enclosed and heavily shielded area for a pre-determined time to receive a prescribed radiation dose.

What are the advantages of radiation processing of food?

- Can treat food without causing changes in the freshness and texture
- No heat applied (cold process)
- No harmful toxic residues in food
- Can be used to treat-packed commodities

What benefits can be achieved through irradiation?

- Reduce post harvest losses
- Disinfest fresh fruits and agricultural products for storage
- Extend shelf-life of food and agricultural products for storage
- Reduce microbes responsible for spoilage
- Eliminate disease-causing microorganisms

Does irradiation process make food radioactive?

No. The foods itself never comes in contact with the radioactive material. The irradiation process involves only the passing of food through a radiation field, allowing the food to absorb the required dose. Gamma rays- X-rays and electrons prescribed for radiation processing of food do not induce any radioactivity in food.

What is the difference between “irradiated” and “radioactive” food?

Radiation-processed or irradiated foods are those that have been exposed to a prescribed dose to bring about the desired effect. Radioactive foods, on the other hand, are those that become contaminated with radioactive material. This type of contamination never occurs during food irradiation.

Are irradiated foods safe to eat?

Yes. Irradiated foods are safe to eat. Irradiation of food causes no toxicological hazards and introduces no nutritional or microbiological problems—[Conclusion of an expert committee jointly organized by the World Health Organization (WHO), Food and Agriculture Organization (FAO) and the International Atomic Energy Agency (IAEA)].

Are irradiated foods safe to eat?

Yes, irradiated foods are wholesome and nutritious. All known methods of food processing—even storing food—can lower the content of some nutrients, such as vitamins. Radiation, even at higher doses, does not adversely affect the nutritional quality of food

**Irradiated
foods are
SAFE TO EAT.
They are not
radioactive.**

Can irradiation be used to make spoiled food good or to clean up “dirty food”?

No. Neither radiation nor any other food treatment can reverse the spoilage process and make bad food good. If the food already looks, tastes or smells bad (signs of

spoilage), it cannot be “saved” by any treatment including irradiation. While irradiation can reduce or eliminate spoilage – causing bacteria or pathogenic microorganisms which may be present in spoiled food, it cannot improve its sensory properties.

How can irradiated food be identified in the market?

Irradiated food cannot be recognized by sight, smell and taste. The only sure way for consumers to know if the food has been irradiated is for the product to carry a label that clearly states the treatment in words, a symbol, or both. The Codex Alimentarius Commission has endorsed an irradiation logo. Countries that follow the Codex guidelines have to label irradiated food with words, such as “Irradiated” or “Treated with Ionizing Radiation”

