



Department of Atomic Energy

# Development of Radiation Technology

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Bhabha Atomic Research Centre (BARC) - Department of Atomic Energy (DAE) has been engaged in R&D work on the technology of preservation and hygienization of food and agri-products by radiation. Irradiation is very effective in treating the horticultural produces. Extension of shelf life of horticultural produces is very much depended on the produce, variety and storage conditions. For many fresh agri produce subjected to irradiation and proper storage, substantial shelf life extension has been achieved.

Unique advantages of radiation processing are:

- Significant increase in shelf life for many products including fruits, vegetables, cereals, pulses, spices, sea foods and meat products.
- Effective elimination of harmful bacteria, viruses and insects/pests.
- Cold & clean process (No temperature raise or residue); and treatment done after final packaging (no repacking necessary).

BARC-DAE has set up two technology demonstration units, one commissioned in the year 2000 for high dose irradiation at Vashi, Navi Mumbai, and another in 2002, for low dose irradiation, KRUSHAK (Krushi Utpadan Sanrakshan Kendra) facility at Lasalgaon, near Nashik. The facilities are being operated by the Board of Radiation & Isotope Technology (BRIT). Recently the harmonization of food irradiation rules with the international regulation through adaptation of class wise clearance of irradiated food items by the Food Safety and Standards Authority of India (FSSAI) has taken place [Food Safety and Standards (Food Products Standards and Food Additives) Sixth Amendment Regulations, 2016] for large scale deployment of this technology.

The quantum of horticulture produce in India is huge. Hence, many more facilities are needed.

Currently 15 irradiation plants are functional in the country which includes two plants set up by Government of India (KRUSHAK at Lasalgaon, Nashik, Maharashtra; and Radiation Processing Plant at Vashi, Navi Mumbai), and one each by State Government of Maharashtra and Gujarat. Annually, about 20,000 MT of food and allied products are being irradiated in the country.

This information was provided by the Union Minister of State (Independent Charge) Development of North-Eastern Region (DoNER), MoS PMO, Personnel, Public Grievances & Pensions, Atomic Energy and Space, Dr Jitendra Singh in a written reply to a question in Rajya Sabha today.

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