

Irradiated Fruit, People are Buying

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A desire for novelty and good taste has driven consumer purchase of high quality irradiated tropical fruit from Hawaii. Irradiation offers new opportunities for producers to extend the shelf life of fruits, ship good quality produce from insect quarantine areas, and possibly enhance food safety.

Irradiation exposes fruit to high levels of energy from radioactive isotopes like Cobalt 60 or from machines. Low level treatment does not affect food nutritive value or wholesomeness, destroys insects, and may extend shelf life. Irradiation is not appropriate for all produce items, however its use is broader than earlier thought.

In the past, Animal and Plant Health Inspection Service (APHIS) specified treatment levels for specific pests, fruits, and geographic regions. A policy change

to specified treatment levels for specific pests regardless of the fruit or geographic region has made the approval process easier.

Consumers have found irradiated fruits to be high quality, purchasing thousands of pounds in sustained market exposure. Since the fall of 1995 tropical fruit from Hawaii has been sold at several Midwest markets in collaboration with a study to determine quarantine treatment. From 1995 through October, 1996, eleven shipments of fruit consisting of papaya (10,020 pounds), atemoya (7,302 pounds), rambutan (1,168 pounds), lychee (3,080 pounds), starfruit (2,264 pounds), banana (380 pounds), Chinese taro (30 pounds), and oranges (200 pounds) were shipped to Isomedix plant near Chicago for irradiation between 0.25 and 1.0 kilogray (Wong, 1996). In late 1996 fruit

was also marketed in ethnic markets in San Francisco and Los Angeles. The state of Hawaii has sought and been granted permission to build an irradiator on the islands.

According to retailers, fruit was well received by consumers, however one Midwest retailer withdrew due to threats from an activist organization. Food and Water, Inc. continues to threaten select retailers who use this technology, just as they threaten the use of products modified by biotechnology and those treated with pesticides.

Other irradiated products are also well received in the marketplace. When poultry is irradiated, 99.9% of any salmonella and other bacteria are destroyed. Irradiated poultry marketed in two Kansas supermarkets captured 63% of the market share when priced 10% less than the store brand, and 47% when priced equally (Fox, 1996). The irradiated product sold better in the more up-scale supermarket, capturing 73% of the market when priced 10% lower, 58% when priced equally, and 31% and 30% when priced 10% or 20% higher. This is consistent with other attitude surveys and marketplace data that indicate irradiation is more accepted in up-scale markets.

Irradiation may have application to reduce some produce food safety risks. Although not effective against viruses which are very small, USDA researcher Dr. Don Thayer is currently evaluating irradiation's affect on the parasite *Cyclospora*. If the organism is indeed on raspberries, low dose irradiation may be an effective treatment.

There are over 40 irradiation facilities in the United States and two locations in Southern California. New self-contained equipment which can be placed at the end of a processing line is under development. Irradiation offers processors another option to extend shelf life and market unique products.

References

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