**What Restaurant Owners Need to Know About Food Irradiation**

**What is food irradiation?**

Food irradiation is a food safety tool that can help reduce dangerous food-borne pathogens. Irradiation destroys bacteria and can improve the safety and shelf life of food1. The Food and Drug Administration approved the use of irradiation on meats, poultry, and shellfish6. Specific vegetables, grains, fruits, and meats can be irradiated. However, not all products have undergone the approval process and some foods may be less suitable for irradiation.

Irradiation destroys disease-causing microorganisms by exposing food to electron beams/ionizing radiation. Energy passes through the food much like when food is placed in the microwave or an x-ray; no detectable levels of radiation or energy are left in the food6. Irradiated foods are no less wholesome and nutritious than their non-irradiated counterparts2. Irradiation cannot reverse spoilage or make spoiled food good2. Irradiated foods are not radioactive5. All research indicates that irradiated food is safe for consumption.



**Why does it matter?**

Irradiation can make foods safer by significantly reducing the number of foodborne infections and deaths1. Irradiated foods can provide extra protection for high-risk populations such as infants, older people, pregnant women and those with compromised immune systems. The Economic Research Service of the USDA estimates that the cost of diseases caused by *E.coli O157:H7* in improperly cooked ground beef is between 200 and 440 million dollars yearly13. The Council for Agricultural Science and Technology estimates as many deaths as 9,000 annually from foodborne dieseases13.

**Is it safe?**

Each food irradiation application must be evaluated for chemical safety, microbiological safety and nutritional adequacy1 . The United States Department of Agriculture and the Food and Drug Administration have approved food irradiation for use on red meat, poultry, and shellfish3. The American Medical Association, the World Health Organization, and the Centers for Disease Control and Prevention have all stated that irradiated foods are safe1. Thirty-seven countries have approved the use of irradiated foods4 .

**What are some benefits of irradiated foods?**

* Irradiating foods can reduce the risk of certain foodborne diseases (such as those caused by *E.coli*, *Salmonella*, *Campylobacter*, and *Listeria*)
* Food irradiation extends the shelf life of some products by destroying or inactivating spoilage organisms
* Irradiation can provide extra protection for people with compromised immune systems from food-borne diseases

 

**Does irradiation alter the food?**

Food irradiation can cause some minor sensory changes due to the oxidation of free radicals that can lead to slight flavor changes in food. Irradiation can also cause other changes such as the loss of some vitamins. However, this is comparable to other food processing methods like heating or canning4. Irradiation does not “cook” the food; it is still fresh. Irradiated meat and poultry should be refrigerated and handled carefully to avoid reintroduction of harmful or spoilage bacteria2. Therefore, irradiation does not replace safe food handling practices2.

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

The irradiation treatment adds a few cents to the cost of food6. This is minimal compared to the loss of productivity and the cost of food recall to the industry. Food recalls and outbreaks can put a company out of business or lead to imprisonment if legal action is taken. In 2006, a spinach outbreak linked to *E. coli* O157:H7 lead to the direct loss of twelve million dollars to spinach growers, not including losses related to consumers after-outbreak avoidance8.

**How do I know if a food has been irradiated?**



* Irradiated foods are labeled with the “radura”- the international symbol for irradiation accompanied with the words “Treated by irradiation” or “Treated with radiation”2
* Irradiated spices used in dishes are not required to be labeled2

**Who are some of the leading food businesses that carry irradiated meats?**

Wegman’s grocery chain began selling irradiated ground beef in 200211. The irradiated meat is priced competitively with non-irradiated meat11. Schawn’s carries irradiated ground beef products from Huisken’s Meats of Minnesota on their website12. All ground beef sold by Omaha Steaks is irradiated12. These products are all labeled, but irradiated food offered in a restaurant does not require labeling.

**What do consumers think about irradiated food?**

Even though the public is faced with misinformation about food irradiation, interest in purchasing irradiated foods is increasing. A study published in 2016 evaluated messages using the topics ‘Benefit’, ‘Nutrition’, and ‘Authority’ to measure consumers’ willingness to purchase irradiated meats9. When provided with information that addressed benefits of the process 72% of consumers expressed an interest in purchasing irradiated food with 76% of these consumers willing to buy even if the product was 10% more expensive than the non-irradiated meat.9 Consumers are interested in the safety, taste, nutrition, and price of irradiated foods9. Providing information addressing these topics increases the likelihood of consumers to purchase irradiated foods.



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