

IRRADIATION

Overview

Irradiation is a safe and simple process that uses energy to destroy harmful bacteria on food products. This energy can be generated from cobalt-60 or cesium-137 (referred to as gamma irradiation), x-ray machines or electron accelerators (most often called electron-beam technology). The energy passes through the product, in the same way that microwaves pass through foods in a microwave oven. The energy does not remain in the product or leave any residue, nor does it cook the product and when applied properly does not alter its taste in any demonstrable way.

Irradiation is an added food safety tool that complements the many other technologies used to produce the most wholesome products possible. Research has shown that irradiation is extremely effective in destroying bacteria like *Salmonella*, *Listeria monocytogenes* and *Escherichia coli*. Many compare the food safety potential of irradiation to milk pasteurization, which was once thought to be a radical idea, but is now a standard practice.

Availability

Irradiation has been available for spices, fruits and vegetables for many years, but was only permitted for use on single ingredient red meats in February 2000. A petition seeking approval for processed and marinated meat products has been submitted to the U.S. Food and Drug Administration.

Retailers began offering irradiated products in the retail marketplace in 2000. Today, irradiated meat products are offered by retail chains in major markets. Consumers are able to identify irradiated products by looking at the label, which prominently bears a symbol called the radura and the words “treated with irradiation” or “treated by irradiation.”

As of 2004, the U.S. Department of Agriculture’s Food and Nutrition Service has approved irradiated ground beef and beef patties as a purchase option for the National School Lunch Program.

Irradiation Safety

Irradiation is one of the most studied food safety technologies ever introduced. The American Medical Association, the World Health Organization, the American Dietetic Association, and the Centers for Disease Control and Prevention, among a variety of other public health organizations, endorse irradiation as a safe, effective and important means of preventing foodborne illness. In fact, astronauts and members of the military have consumed irradiated products for decades. Irradiation is already widely used in the United States to sterilize medical equipment. In addition, the technology is approved for use in nearly 40 countries around the world.

Any facility that irradiates meat or poultry is considered a processing facility subject to regular and frequent inspection by the Department of Agriculture (USDA). Like all workplaces, the facilities also will be subject to Occupational Safety and Health Administration and

Environmental Protection Agency regulations and inspections.



This symbol must be included on packages of meat and poultry along with the words “treated with irradiation” or “treated by irradiation.”

Food Safety Value

Irradiation is only used after meat or poultry products have met all food safety regulations and been inspected and passed by USDA. Irradiation is a supplement to - not a substitute for - other food safety strategies. Because irradiation is so effective in destroying bacteria, irradiated meat products are an important consumer choice, especially for those most vulnerable to foodborne disease, like the elderly, children, pregnant women, and those who are immunocompromised.

Irradiation does not eliminate the need for proper consumer food handling procedures in the kitchen, however. For example, an irradiated product that is brought into the home could become contaminated by other non-irradiated products by bacteria on hands, refrigerators, and cutting boards and countertops. However, when used in combination with safe handling practices, the technology stands to help reduce foodborne illness risks dramatically.

Consumer Receptiveness

Research consistently has demonstrated that many consumers who understand irradiation and its benefits will purchase irradiated foods. Consumers' desire for these products increases the more their knowledge increases.

While irradiation may increase the cost of products by a few pennies per pound, research shows that consumers are willing to pay more for the food safety benefits that irradiation offers.

HELPFUL LINKS

North American Meat Institute

<http://www.meatinstitute.org>

<http://www.meatsafety.org>

Center for Consumer Research

<http://ccr.ucdavis.edu>

Centers for Disease Control and Prevention

<http://www.cdc.gov>

Food and Drug Administration

<http://www.fda.gov>

U.S. Department of Agriculture

<http://www.usda.gov>

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