

Irradiation: Fact Sheet

Summary

The Food Safety and Inspection Service in December 1999 issued a final rule on low-dose irradiation of raw meat, including beef. The rule went into effect on Feb. 22. A number of processors, including those that move a high volume of meat, have contracted with companies to produce irradiated ground beef. Irradiation is another useful technology to ensure that the cattle industry continues to provide safe beef to consumers.

Background

Food irradiation exposes foods to a radiant energy source, primarily gamma rays or electron beams. The process reduces or kills bacteria and other pathogenic organisms. Its use is intended to increase the shelf life, quality and safety of foods. Other forms of radiant energy include heat, light, ultra-violet light, x-ray, and microwave. Although the Food and Drug Administration approved irradiation of red meat in 1997, USDA was required to allow for public comment and issue a second rule describing how irradiation must be carried-out by meat processors.

Under the Food Drug and Cosmetic Act, irradiation is considered a food additive. Therefore, foods treated with irradiation must be labeled as "treated by or with irradiation" and must carry radura, the international symbol for irradiation. Irradiation is often referred to as "cold pasteurization" by the food industry. Many feel that the term "cold pasteurization" is more consumer friendly than "irradiation" and provides a better description of food irradiation.

The processes most likely to be used for irradiating meat are electron beam or gamma ray irradiation. These technologies are proven to be safe and do not affect the characteristics of meat at low dose levels (a maximum of 4.5 kGy for refrigerated and 7.0 kGy for frozen meats) that would be used for treatment. The level of energy used for food irradiation affects only living organisms, such as bacteria and insects. Properties of meat such as taste, appearance or nutritive value are virtually unaffected. During irradiation, the food never comes into contact with the radioactive source. Therefore, no radioactive energy waves or residues are retained in the food.

Currently, more than 40 irradiation facilities are operating in the U.S, mostly for medical instruments and supplies. In 1998, construction of a fruit and vegetable irradiation facility in Hawaii was approved. Studies have shown that there is increasing understanding and approval of irradiation technology among consumers. Stores where irradiated foods debuted reported that sales remained high even when prices increased. One retailer who began three years ago said that irradiated products have continued to outsell unprocessed ones by as much as 20 to 1.

Key Points

The National Cattlemen's Beef Association supports the use of food irradiation, and will continue to work to educate consumers on the benefits of irradiation. NCBA believes that further use of irradiation will add value to beef products and will bring additional benefits of safety and convenience to consumers