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# Effect of information and information source on consumer preference for food irradiation

## Abstract

The effect of consumer information about food irradiation and the source of the information was studied through a survey mailed to 400 residents each of Manhattan and Topeka, Kansas. Two-thirds of the surveys contained a brochure providing answers to frequently asked questions about irradiation, one-third did not. Half of the informational brochures were altered to suggest they were from industry, half from the government. The survey questioned consumer choice between irradiated and non-irradiated ground beef patties, with price differentials from 10 cents/lb to 40 cents/lb costlier for irradiated patties. A greater price differential resulted in less preference for irradiated beef patties. The informational brochure increased the choice of irradiated patties, with that from a "government source" rather than an "industry source" being more effective (57% compared to 51%).

## Keywords

Cattlemen's Day, 2003; Kansas Agricultural Experiment Station contribution; no. 03-272-S; Report of progress (Kansas State University. Agricultural Experiment Station and Cooperative Extension Service); 908; Beef; Food irradiation; Consumer preference

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## **EFFECT OF INFORMATION AND INFORMATION SOURCE ON CONSUMER PREFERENCE FOR FOOD IRRADIATION**

*J. A. Fox<sup>1</sup>, M. A. Boland<sup>1</sup>, and W. Grady<sup>1</sup>*

### **Summary**

The effect of consumer information about food irradiation and the source of the information was studied through a survey mailed to 400 residents each of Manhattan and Topeka, Kansas. Two-thirds of the surveys contained a brochure providing answers to frequently asked questions about irradiation, one-third did not. Half of the informational brochures were altered to suggest they were from industry, half from the government. The survey questioned consumer choice between irradiated and non-irradiated ground beef patties, with price differentials from 10 cents/lb to 40 cents/lb costlier for irradiated patties. A greater price differential resulted in less preference for irradiated beef patties. The informational brochure increased the choice of irradiated patties, with that from a "government source" rather than an "industry source" being more effective (57% compared to 51%).

### **Introduction**

Studies have shown a positive effect on consumer acceptance from providing additional information about irradiation. Negative information will reduce acceptance levels, and the impact of negative information about the process can dominate effects of positive irradiation information. Because most people are still unfamiliar with irradiation (only 48% of a sample of 10,780 adults had heard of the process), providing information to consumers

is critical to the market success of irradiated foods.

While the effects of information on acceptance are fairly well established, less attention has been given to effects related to source of information. For example, does it matter if industry or government provides the information? If consumers perceive information provided by the irradiation industry to be less reliable, public health benefits associated with irradiation justify public expenditures to inform consumers about the process.

The goal of this study was to investigate whether identical brochures from two sources, industry and government, would have a similar effect on consumer acceptance of irradiated hamburger.

### **Experimental Procedures**

A survey was mailed to 400 residents of Manhattan, Kansas and 400 residents of Topeka, Kansas on April 15, 2002 with a follow-up mailing to non-respondents on May 24. The survey included questions about beef purchases, the respondent's knowledge of and attitude toward food irradiation, and demographics.

One-third of respondents received no information about food irradiation except for a brief statement of its effect on food-borne pathogens. For the remaining two-thirds, the

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survey included a brochure providing answers to frequently asked questions about irradiation. The leaflet was developed by Dr. Christine Bruhn, Director, Center for Consumer Research at the University of California, Davis. The brochures were altered to suggest that half were from an industry source using the wording “Based on information provided by the food irradiation industry,” and the other half from a government source using the wording “Based on information provided by the Food and Drug Administration and the United States Department of Agriculture.”

The preference question in the survey asked consumers to choose between irradiated and non-irradiated hamburger patties. The wording was: *“If your local food store sold hamburger patties which had been treated by irradiation to control Salmonella, E. coli and other food-borne bacteria, would you buy non-irradiated hamburger patties at \$1.69 per pound or irradiated hamburger patties at \$⟨PRICE⟩ per pound? The “PRICE” for the irradiated patties varied between a 10 cent/lb premium and a 40 cent/lb premium across four versions of the survey. The price for non-irradiated patties was \$1.69/lb in all surveys.*

## **Results**

After allowing for 38 undelivered surveys, the overall response rate was 57%, with 215

and 216 surveys returned from Manhattan and Topeka, respectively.

Information about irradiation influenced attitudes toward the process. Thirty-two percent of respondents who did not receive an information brochure reported a positive attitude toward irradiation. Of those who received the “industry” brochure, 66% reported a positive attitude, while 76% of those who received the “government” brochure reported a positive attitude.

As expected, the proportion of consumers choosing irradiated patties decreased as the price of irradiated patties increased. At a premium of 10 cents/lb, 59% of the respondents chose the irradiated patties. When the premium was raised to 40 cents/lb, the proportion choosing irradiated fell to 36%.

Providing information about irradiation impacted choices. When averaged across the four price levels, irradiated patties were chosen by 57% of individuals receiving government information, by 51% of those receiving industry information, but only by 39% of individuals who received no information. Government information was more effective than industry information at the lower and higher prices, but had a similar impact at mid-range prices.