

Irradiation Beef Industry Study

Background and Objectives

The National Cattlemen's Beef Association (NCBA), on behalf of the Cattlemen's Beef Board, conducted a research project evaluating the existing market for irradiated ground beef. Data was collected from the current purchasers of irradiated ground beef as well as those who do not purchase it in order to evaluate and identify barriers/issues for acceptance of irradiated ground beef in the food service and retail channels as well as evaluate the marketing efforts that exist regarding the sale of irradiated beef.

Project Objectives

- Measure foodservice and retail awareness of, and attitudes toward, irradiation technology for improved safety with ground beef products among those who do and do not offer irradiated beef
- Determine the ratio of irradiated to non-irradiated ground beef sales among retailers offering both products
- Measure the willingness to offer irradiated ground beef among those who do not offer it
- Identify barriers/issues to offering irradiated ground beef including researchable knowledge gaps
- Identify consumer awareness and attitudes related to offering irradiated products
- Identify successful retailers and determine which practices help them sell this product
- Suggest ways for increasing irradiated beef sales
- Ascertain the key benefits that consumers react to most positively

Methodology

Telephone interviews were conducted among 300 retail and food service beef purchasers in January and February 2004. Representative national sample lists were used for the majority of the interviews. In addition, a list of the retailers/food service providers that are known to carry irradiated ground beef was utilized.

Within the various industry segments, chains were sampled first as they account for a large proportion of meat sales. Chain headquarters were the primary targets for interviews. There were few regional/ district locations to call, so after the interviews at headquarters, interviews were primarily conducted with specific sites. Independent stores or restaurants were then interviewed to complete the process. All

respondents are treated equally in this report – e.g., the answers from a respondent at a local independent grocery store are reported with the same weight as answers from a respondent at a national grocery chain headquarters.

The results of the interviewing cannot be considered a random sample of the industry as the calls were not done randomly. Hence, this report does not discuss the industry as a whole but rather as segments of the industry.



The following table shows how the interviews broke out into the various segments:

Respondent Quotas Used in Study

	Retail List	Restaurant List	Food Service List	Purchaser List	Total
Current Purchaser	10	2	1	16	29
Past Purchaser	9	1	8	5	23
Knowledgeable, Non-Purchaser	55	46	47	3	151
Non-Knowledgeable, Non-Purchaser	33	30	34	0	97
Total	107	79	90	24	300

Results

Awareness of and Purchasers of Irradiated Beef

- The research tracked the overall interviewing in order to determine the incidence among the various groups on awareness of irradiated beef. As reported by respondents, knowledge and purchases of irradiated beef were low. About four in 10 (41%) of all of those contacted from the national sample lists (including those who did not complete the interview due to their quotas already being filled) were not at all knowledgeable about irradiated beef.
- Among retail food stores contacted, 68% were at least slightly knowledgeable, 9% were current purchasers, and 8% were past purchasers. In the food service provider group, 53% were at least slightly knowledgeable, while 1% were current purchasers and 8% were past purchasers. Among restaurants contacted, 2% were current purchasers and 1% had purchased in the past.

Knowledge of Irradiated Beef and Other Products

- As would be expected, a majority of current (80%) and past (65%) users considered themselves highly or fairly knowledgeable. Current purchasers (users) of irradiated ground beef more often were highly knowledgeable (35%), compared to 13% of past users and 7% of knowledgeable non-users (by definition, this group only consisted of those reporting they were at least slightly knowledgeable about irradiated beef).

Personal Feelings about Irradiated Ground Beef

- The knowledgeable current and past users as well as the knowledgeable non-users were asked their personal feelings about the role of irradiated ground beef in the industry. Not surprisingly, the current users were the most positive as two-thirds were very (46%) or somewhat (21%) positive. The past users (48% very/somewhat positive) and knowledgeable non-users (44%) were fairly comparable in their attitudes. Only 15% of the current users were very/ somewhat negative in their feelings versus 24% of the past users and 23% of the knowledgeable non-users.



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Benefits and Concerns Associated with Irradiated Ground Beef

- The top benefits of irradiated beef were all related to making meat safer: inactivating bacteria/pathogens (51% of knowledgeable current/past users and 41% of knowledgeable nonusers), making meats safer/increasing confidence in meat safety (31% and 26%), and reducing the risk of contamination/foodborne illness (27% and 12%).
- When asked about their concerns about irradiated ground beef, a majority of the knowledgeable current/past users and knowledgeable non-users said either they had no concerns or “do not know” (65% and 55%, respectively). The most often reported concern by the user group was that consumers would not buy it/consumer resistance (22%). In the non-user group, this reason (15%) was second most often mentioned, while health risks (20%) were first (only 4% of the users reported this as a concern).

Knowledgeable Users’ Opinions of Consumers’ Attitudes about Irradiated Beef

- Almost two-thirds of the knowledgeable current users felt that less than half of their customers were knowledgeable about irradiated ground beef (43% said that less than half of their customers were knowledgeable and an additional 21% felt that almost none or none of their customers were knowledgeable). Only 18% said that all/nearly all of their customers were knowledgeable (4%) or more than half (14%) were knowledgeable.
- Excluding those indicating almost none/none of their customers were knowledgeable, few users (5%) felt that their customers were opposed to irradiated ground beef, while 36% thought customers favored it.

Customers Most and Least Likely to Buy Irradiated Ground Beef

- Among knowledgeable current users, the segments considered most likely to buy irradiated ground beef included those that were more educated (32%), had higher incomes/could afford it (32%), seniors (25%), and families with children (18%). The top reasons some consumers were thought especially likely to buy included thinking meat is safer or has less chance of foodborne illness (50%) and food safety is important because they or their family members are at risk (36%).
- Knowledgeable current users most often mentioned the lower income/cost conscious segment (43%) as the customer segment least likely to buy irradiated ground beef, with those who are more knowledgeable/educated (14%) a distant second. In current users’ opinions, reasons some consumers were especially unlikely to buy included not being informed/worry about what they do not understand (57%), concern with health risks (14%), and the high price (11%).

Consumer Education Campaign

- Knowledgeable current/past users and knowledgeable non-users were asked how important it is to conduct a consumer education campaign about irradiated beef if the beef industry wants to increase demand for the product. About 92% of the current/past users and 84% of the nonusers indicated it would be extremely or very important to conduct a consumer education campaign.
- When asked what information or messages they thought consumers needed to hear in order to reduce their concerns about irradiated ground beef, the most often mentioned messages included how irradiation works/ explanation of the process (37% mentioned among the users and 34% among the non-users), why irradiation is not a health risk (29% and 34%), and studies to show health risks and benefits



(27% and 33%). The benefits of irradiation (18% and 22%) and the impact of irradiation on meat/what it does (18% and 17%) were the next most popular responses.

Reasons for Buying a Mix of Irradiated and Non- Irradiated Ground Beef

- The dominant reason given by knowledgeable current users for purchasing a mix of irradiated and non- irradiated ground beef was to give customers a choice (62%), followed by to try it on small scale first before making a large commitment (19%).

Reasons for Not Purchasing Irradiated Ground Beef

- Knowledgeable past users and non-users were asked why they did not purchase irradiated ground beef. The dominant reason mentioned by about four in 10 of each group was that current suppliers do not offer it. No demand/Does not sell was mentioned by 19% of the past users (considerably more than the 3% mentioned among the nonusers).

Obstacles to Purchasing Irradiated Ground Beef

- There were many differences across the three groups on rating the possible obstacles to buying irradiated ground beef. The obstacles with the highest ratings from this group were lack of availability from suppliers (31%), concern about safety (31%), and the price of meat (23%).
- Among the knowledgeable past users, the issues with the highest percentages of being a major obstacle were lack of availability among suppliers (52%), consumer resistance (43%), cost of marketing (43%), and questions about the benefits of irradiation (38%). This group gave more major obstacle ratings than did the current users on five of the issues, including the above four top issues.
- The knowledgeable non-users gave higher ratings on all of the issues compared to the current users, and higher ratings on six of the issues compared to the knowledgeable past users. Issues receiving the highest major obstacle ratings from the non-users were lack of availability (47%), concern about safety (43%), and consumer resistance (42%), followed by price of meat (38%) and satisfaction with current products (38%).

Likelihood to Begin Purchasing Irradiated Ground Beef

- Almost half of the past users were very (14%) or somewhat (33%) likely to begin purchasing some irradiated ground beef in the next year, while just over a fourth of the knowledgeable non-users were very (4%) or somewhat (23%) likely to do so.

Future Purchases of Irradiated Ground Beef

- Among knowledgeable current users who purchased both irradiated and non-irradiated ground beef, more than twice as many said they expected to purchase more irradiated ground beef rather than less in the next year (58% vs. 23%). The remainder expected to keep the proportion of irradiated and non-irradiated beef similar (11%) or said “do not know” (8%).

Marketing Irradiated Ground Beef

- Overall, there was little promotion of irradiated ground beef. In-store signage (33%), having the irradiated beef symbol/words on packaging (22%), and advertising/ explaining irradiated ground beef on a Web site (15%) were the most popular current methods of marketing/ promoting irradiated ground beef or educating customers about the product. However, 19% indicated that did nothing to market or promote the fact that they carried irradiated beef or to educate consumers about the product.
- Among those who did market/promote irradiated beef (22 respondents), a little



more than a third rated their organization's efforts as extremely (5%) or very effective (32%), with an additional 36% rating the efforts as somewhat effective. Not quite a fourth rated the efforts as not too effective (18%) or not at all effective (5%). The most popular effective programs were point-of-sale materials (36%) and advertisements (18%). The most often given response, however, was that none of the marketing/ education efforts were especially effective (41%).

What it would Take to Start Purchasing Irradiated Ground Beef

- The knowledgeable past users and non-users were asked what it would take to get them to purchase irradiated ground beef. Having it be available from suppliers (29% of past users and 25% of non-users indicated this) and getting more information/increasing consumers' awareness (24% and 30%) were the top reasons, followed by competitive/lower prices (19% and 23%) and needing demand (19% and 15%).

Percentage of Irradiated Ground Beef Purchased

- About half of the knowledgeable current users said that less than 10% of their ground beef purchases were of irradiated ground beef. Another fourth purchased from 10% to 30% irradiated ground beef. Just 19% indicated that at least half of their ground beef purchases were irradiated.

Profile of Sample Groups

- The non-user groups tended to be smaller in terms of the amount of ground beef purchased per month compared to the current/past users (the non-knowledgeable non-users had 84% purchasing 3,000 lbs. or less per month while 31% of current users, 60% of past users, and 64% of knowledgeable non-users were in this group). In addition, 35% of the current users purchased at least 100,000 pounds per month compared to no more than 6% in the other three groups.
- The two user groups were predominantly in the retail food store category (about six in 10) compared to just over a third of the non-user groups. Roughly half of the non-users interviewed were restaurants/eating establishments compared to 24% of the current users and 9% of the past users. The current users were more often national/ international chains and regional/local chains than were the other groups.
- The current and past users in chains less often reported that purchase decisions were made centrally with little input from others than did the non-user groups (25% and 22% vs. 49% and 57%). The past users also indicated more often than the other groups that decisions were made centrally but with extensive input for local preferences. The current users substantially more often indicated the purchase decisions were decentralized so regional/local managers could buy for their markets.

Conclusions

Awareness and Usage

- Success for any product is constrained when awareness is limited, and knowledge of irradiated ground beef is low, both among those in the industry and among consumers. About four in 10 of all the contacts made for this study were in the "not at all knowledgeable" category concerning irradiated ground beef. Even among non-purchasers with some knowledge, however, the vast majority (about nine in 10) was only slightly or fairly knowledgeable about irradiated ground beef. In addition, only 18% of knowledgeable current users thought a majority of their customers were knowledgeable about the product. This perceived lack of awareness among



consumers is not surprising, considering that most users did little to promote the product or to educate consumers about irradiated ground beef, but the lack of awareness in the trade was somewhat surprising.

Future Purchases of Irradiated Ground Beef

- Of those who were at least slightly knowledgeable about the product, respondents were quite positive about the role of irradiated ground beef in the industry. As would be expected, the current users were more positive (67%), but even the past users (48%) and knowledgeable non-users (44%) had many who were positive about irradiated beef.
- Over the next year, respondents were relatively positive about purchasing irradiated ground beef. Almost half of the past users were very (14%) or somewhat (33%) likely to purchase the product in the next year, and over a fourth of the knowledgeable non-users were very (4%) or somewhat (23%) likely to do so. In addition, a majority of the current purchasers (58%) indicated they would increase the amount of irradiated ground beef they would buy (versus 23% intending to decrease the amount). These data show a growing rather than a shrinking market, and this market could be expanded if there is more marketing to popularize the product and more education of those in the industry and consumers to explain the advantages of irradiated ground beef.
- Retailers had the highest proportion of irradiated beef purchases (9% current and 8% past purchasers) compared to restaurants and food service providers. Since the retailers have proven more receptive to the product, this group may be more receptive to expanding purchases of irradiated ground beef than the other two channels.
- Developing a data base of information about irradiated ground beef, including which suppliers carry the product, as well as marketing materials for use by current and potential users could help broaden interest and expand the market for irradiated ground beef.

Messages to Promote Irradiated Ground Beef

- A very strong majority of knowledgeable respondents (over eight in 10) felt that it was extremely or very important to conduct a consumer education campaign about irradiated beef if the beef industry wants to increase demand for the product. This campaign is especially needed as few users felt that their customers were knowledgeable about the product. Information about irradiated ground beef could also overcome many of the perceived major obstacles to purchasing irradiated ground beef by purchasers (e.g., consumer resistance, concern about safety, etc.). The following messages were named as the top themes to include:
 - How irradiation works/An explanation of the process
 - Why irradiation is not a health risk
 - Studies that show health risks and benefits of the product
 - Benefits of irradiation including meat safety (e.g., kills bacteria/ pathogens, reduces the risk of contamination/foodborne illness)
- The research indicates most current purchasers of irradiated beef have not aggressively marketed the product beyond point of sale, putting information on their Web site, etc. If a marketing effort could be executed (without putting non-irradiated beef in a negative light), consumer demand could be stimulated which would overcome one of the largest obstacles noted by respondents, i.e., the lack of availability from suppliers as suppliers would start to carry the product with an increase in consumer demand. Many potential purchasers of irradiated ground beef are positive about the product, and hence, it should be possible to gain industry support for such a



campaign, especially in the wake of concerns over BSE and the safety of the meat supply even though irradiated ground beef does not impact BSE.

- Often, producers utilize pull-through marketing to stimulate demand. Since retail food stores are more likely to carry the product (as a choice for their consumers) rather than restaurants and food service providers (who must pass on the increased costs), retail food stores might be the first target for promotion.
- Identifying an especially suitable use for irradiated ground beef (e.g., in particular recipes or situations) for consumers, restaurants and food service providers could be the basis for a breakthrough marketing campaign to create consumer demand, causing the market for the product to be expanded without causing a negative view of non-irradiated products. This would likely stimulate broader supply of the product too.
- Consumer targets for the campaign could include those suggested by current users as the consumer segments most likely to buy: those more educated, with higher incomes (since there is a premium on the product), seniors, and families with children. However, the safety of the meat supply has become a concern for all segments so a broadbased campaign using mass media (rather than the limited local marketing used to date) could be successful in getting the message and benefits out about irradiated ground beef to both consumers and industry members.

