

**CONSUMER OPINIONS TOWARD THE USE OF FOOD MADE WITH
GENETICALLY MODIFIED (GM) INGREDIENTS**

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Introduction

The marketing concept is a well-established management philosophy, which states that achieving organizational goals depends on determining the needs and wants of target markets and delivering the desired satisfactions more effectively and efficiently than do competitors.

The U.S. is on the forefront of nations producing crop varieties developed by using biotechnology, but a backlash at home and abroad is threatening sales. What is the solution?

This paper presents data on consumer preferences toward GM food products. It is an attempt to identify the target market for both GM food products and non-genetically modified food products. It also identifies consumer's preferences toward different categories of food products. This is important, as bills to require mandatory labeling of foods made from GM ingredients are already being introduced in the U.S. House.

U.S. farmers have been eager to adopt GM crops. In 1999, just four years from commercial introduction, almost 50% of the total U.S. corn, soybean, and cotton acreage were planted with transgenics. These GM crops were most readily accepted for seeds that reduced the cost of producing a commodity product. Examples include Roundup Ready® soybeans, corn, and cotton. Adoption rates are considerably lower for GM seeds used to add value to the generic product by improving qualities that match the needs of feeders, food processors, or provide additional direct health and nutritional benefits to the consumer. This value-added technology requires the use of segmenting the commodity market into new sub-markets where previously unmet user needs are satisfied. It results in a high total market value. Given the large number of crops that are being genetically modified, the product attributes being created and the potential

end-users that exist, the possibilities for decommodification of agricultural markets and sustainable value creation are extremely positive **IF** large enough consumer segments exist to warrant their commercial success.

An identity-preserved commodity marketing system is required to reach these value-added segments. If a significant segment of consumers demand non-GM food products, an identity-preserved marketing system is also needed. Keeping the GM and non-GM varieties separate is difficult when the scale of operations involves more than one-half of the U.S. corn and soybean crops. Most of the 1999 corn and soybean production has been commingled. The result is a total confusion in the marketplace. Most European and Japanese consumers want to buy only GM or non-GM labeled food.

Consumer concerns about GM foods appear in the U.S. press frequently. At stake are individual company sales in both the domestic and international markets. This project identifies how large the concern is toward GM food products in the U.S. market. It is vital that farmers, seed companies, and food processors know what their market is thinking about GM food products.

Objectives

The overall objective of this report is provide key insights about consumer attitudes for GM and non-GM food products. While a tremendous amount of research will be needed to monitor this topic, this project is an initial step in understanding the US market. Specific objectives for this project include:

1. To determine what percentage of U.S. consumers prefer food made from non-GM ingredients.

2. To determine how many consumers would pay a premium for food products made from non-GM ingredients.
3. To understand if U.S. consumers would use labels indicating if food contained non-GM ingredients.
4. To determine which types of food consumers think must contain labels indicating if the product was made from non-GM ingredients

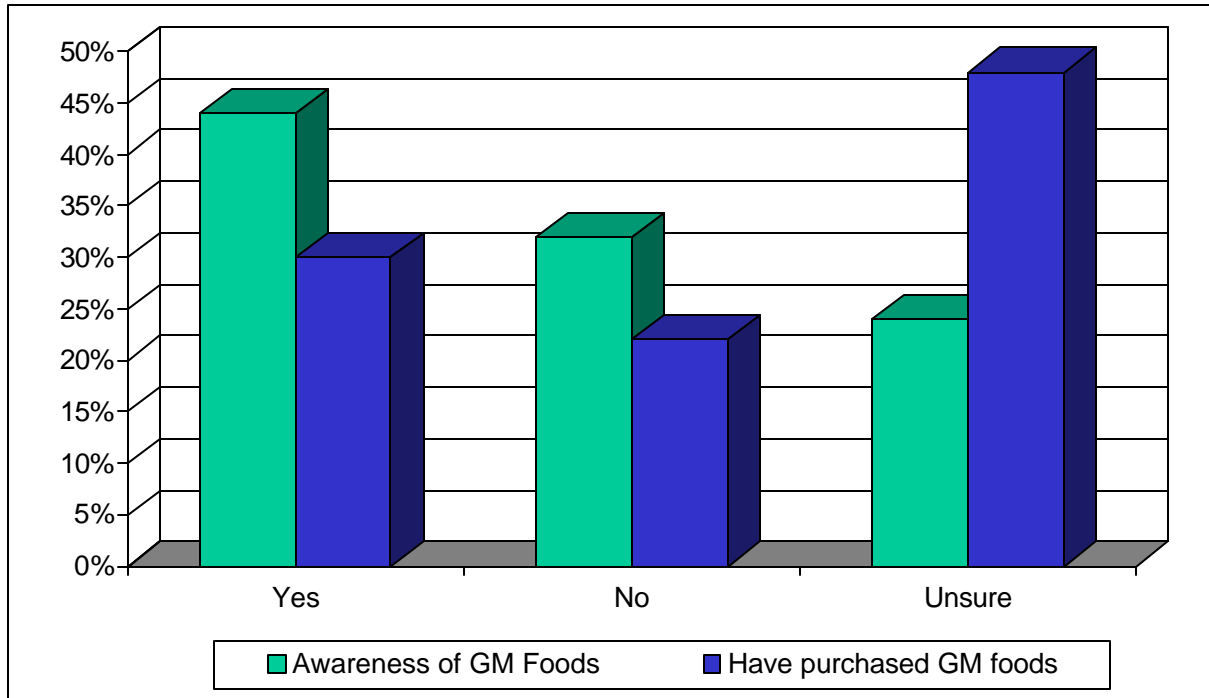
Methodology

The data for this project were collected with an online survey. A random sample of opt-in respondents was provided by a commercial list provider. Multiple opt-in lists related to food products were used to ensure the representativeness and generalizability of the results. For this project, 10,000 electronic invitations were sent out with 326 completed surveys for a response rate of 3.26%.

Results

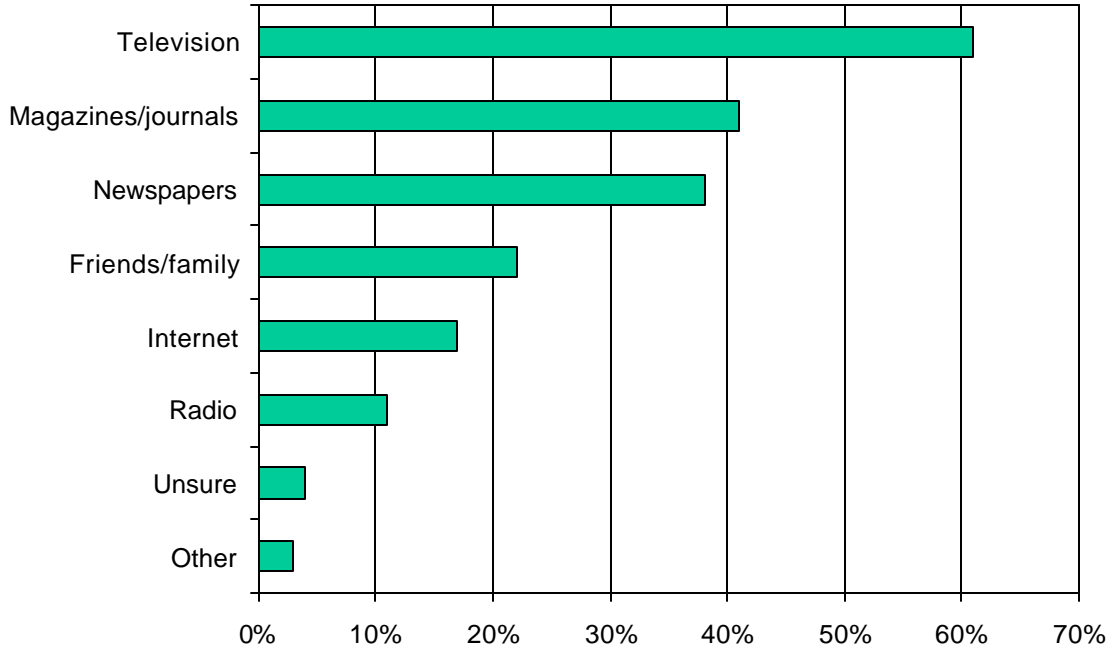
The results of this project are reported below:

Table 1: Awareness/Purchase Activities For GM Food Products



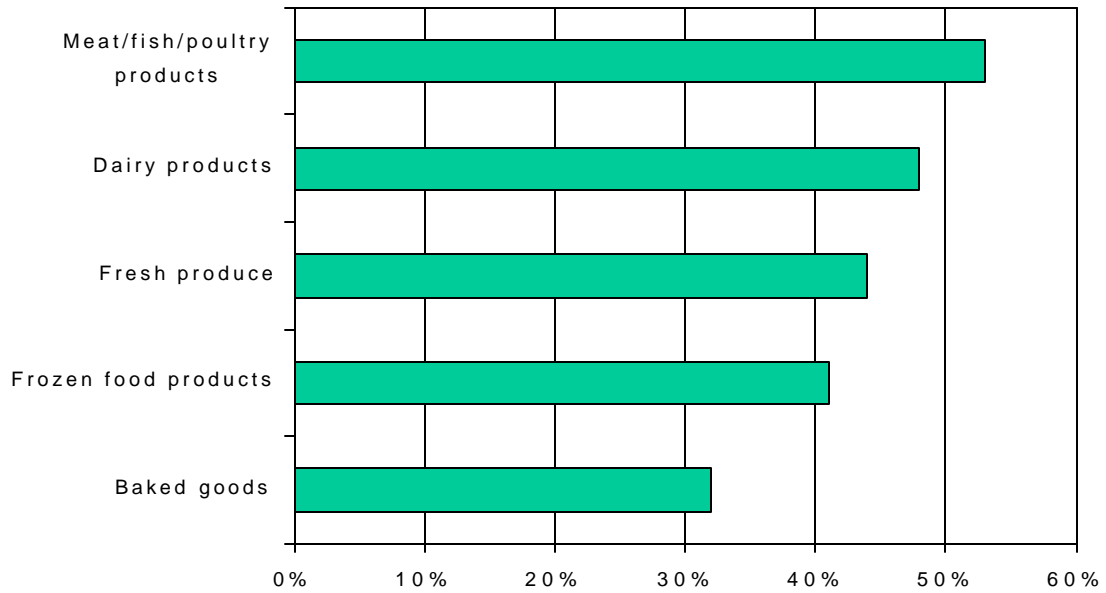
While awareness of GM foods is over 40%, the level of overall uncertainty of purchasing GM foods is relatively high.

Table 2: Sources of Awareness



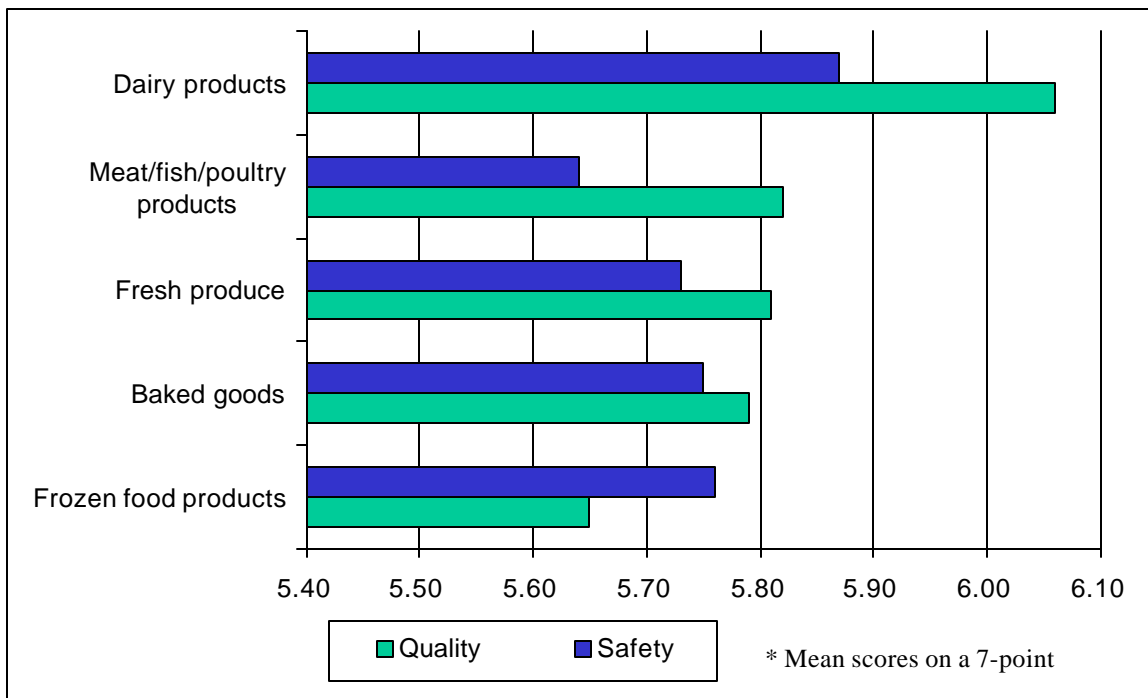
The majority of awareness for GM foods has been generated through traditional media such as television, magazines and newspapers.

Table 3: Likelihood of GM Ingredients



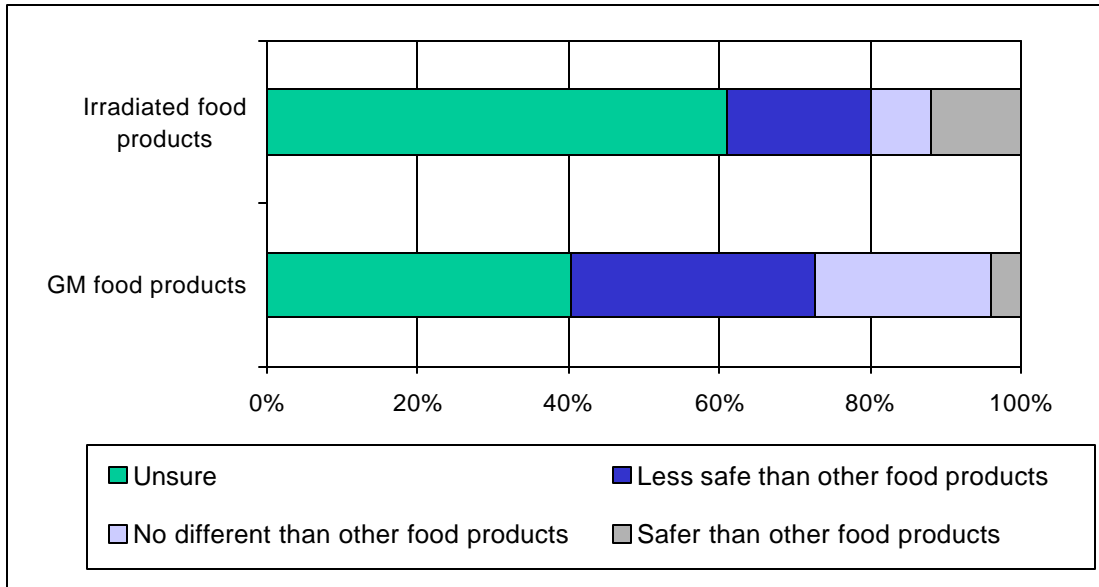
Meat/fish/poultry and dairy products are perceived as the most likely food categories that include GM foods.

Table 4: Perceived Quality & Safety



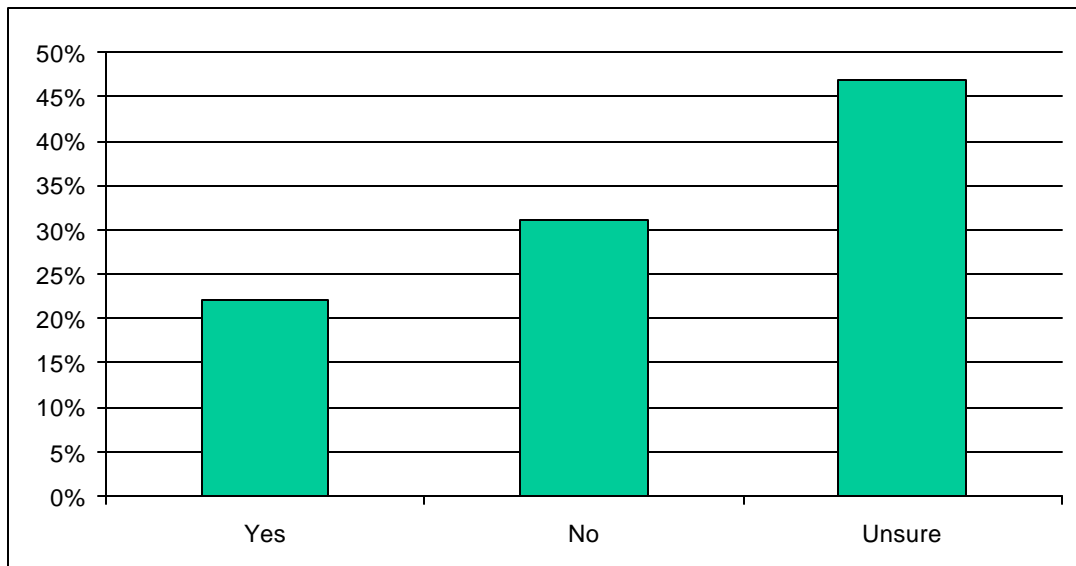
Dairy products received the highest ratings for food quality while meat/fish/poultry products received the lowest scores for food safety.

Table 5: Perceived Safety of GM and Irradiated Foods



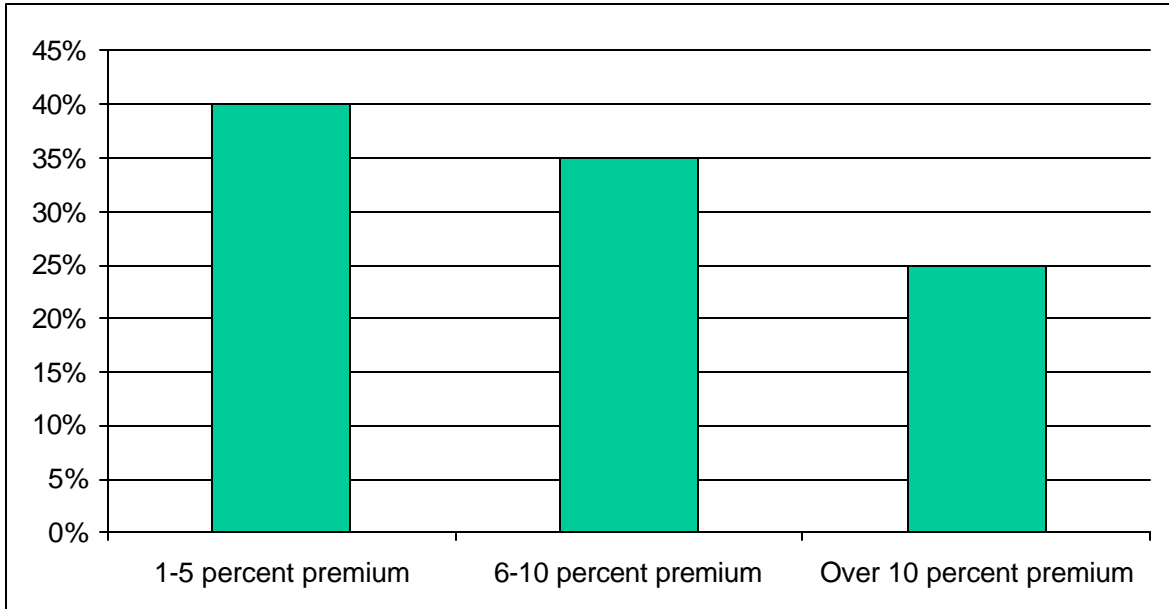
While more respondents indicated that irradiated food products were more safe than other food products while a larger number of respondents indicated that GM food products were less safe than other food products. The level of uncertainty was large for both food products.

Table 6: Would Pay a Premium for Non-GM Foods



Over 20% of the respondents indicated that they would be willing to pay a premium for non-GM food products. This may represent an opportunity for uniquely produced and labeled products. However, the level of uncertainty indicated by respondents offers both opportunities and risks for GM foods.

Table 7: Acceptable Premium Levels for Non-GM Foods



Of those respondents willing to pay a premium, approximately one fourth would be willing to pay a premium of over ten percent for non-GM food products.

Conclusions

The issue of GM food ingredients has long-term implications for global Agribusiness. The results of this project indicate that there is a high level of uncertainty about GM foods in the US market. Consumer awareness of GM foods appears to be driven by traditional media such as television, magazines and newspapers. This would suggest that traditional media can be used for both consumer education and marketing efforts.

The results of this study also suggest that there may be viable market segments willing to pay a premium for products produced and labeled as non-GM foods. This may represent an opportunity for specialized production, processing, labeling and marketing.

Overall, this project provides some initial insights about US market for GM and non-GM food products. Directions for future research would include ongoing awareness tracking as the US market becomes more informed about GM food products, evaluation of marketing and communication efforts to the US market, customer satisfaction with GM and non-GM food products, and assessment of the impact of domestic legislation and international trade agreements.