

## Focus Group Reactions to Genetically Modified Food Labels

### Mario F. Teisl

Associate Professor, Department of Resource Economics and Policy, University of Maine

### Lynn Halverson

Vice President, MACRO International

### Kelly O'Brien

Associate Scientist, Department of Resource Economics and Policy, University of Maine

### Brian Roe

Assistant Professor, Department of Agricultural, Environmental and Development Economics, Ohio State University

### Nancy Ross

Assistant Professor, Environmental Policy, Unity College

### Mike Vayda

Professor, Department of Biochemistry and Assistant Director for Biotechnology Research, University of Maine

We use focus groups to gauge US consumer reactions to alternative genetically modified (GM) food labeling policies. We find a low level of awareness about GM foods, which is surprising given the amount of media activity surrounding the issue. We also find negative reactions to "GMO-free" claims, particularly among people most likely to purchase GM-free foods.

**Key words:** Consumer, food, genetically modified, labeling.

The debate surrounding the labeling of genetically modified (GM) foods is largely about how much information to supply to consumers to facilitate choice, and how that information should be supplied. Although there seems to be empirical evidence of a mainstream desire for the labeling of GM foods (Walsh, 1999; Hallman & Metcalfe, 1994; International Food Information Council, 1999), there is little research providing guidance to policy makers as to the best method of labeling GM foods. As a first step, we use focus group research to develop an understanding of the characteristics that may impact the effectiveness of a GM food labeling policy.

### Methods

Six focus groups were conducted in three cities—two groups each in Orono, Maine; Columbus, Ohio; and Phoenix, Arizona. All participants were recruited by phone; a screener survey was used to determine eligibility requirements and to insure a demographically diverse sample (Table 1). The Columbus and Phoenix groups were delineated by education level, with the first session of both cities consisting of individuals with some college or less, and the second session consisting of individuals with a four-year college education or higher. One of the Orono groups (Group II) was screened to include only individuals with strong negative opinions of GM foods (hereafter, the 'concerned

group'). Specifically, potential participants were asked: "On a scale from 1 to 10, with 1 being 'strongly disagree,' 10 being 'strongly agree,' and 5 being 'no opinion either way,' how do you feel about the following statement: the benefits of genetically modified foods outweigh the risks."

Props were used to stimulate discussion. (A full report with all materials is available—see Teisl *et al.*, 2002.) One prop consisted of an actual advertisement describing a food as "GMO-free." Label props were displayed on three frozen products—corn, chicken tenders, and a pasta-with-vegetables meal—with alternative labels conveying different GM ingredient information. The labels differed in terms of the amount and type of information conveyed. Specifically, labels conveyed that a product either did, or did not, contain GM ingredients. Furthermore, labels stating the presence of GM ingredients were delineated into three categories: neutral, positive, and negative. Neutral statements only indicated the inclusion of GM ingredients. Positive statements provided beneficial health and safety reasons for the inclusion (e.g., "product contains chicken which has been genetically modified to reduce saturated fat content") whereas negative statements included "warning" or otherwise negative messages (e.g., "unanticipated allergens may be present").

Participants were asked to comment on whether or not the labels displayed adequate information, whether

**Table 1. Demographic characteristics of focus group participants.**

	Orono		Columbus		Phoenix	
	Group I (n=6)	Group II (n=9)	Group III (n=9)	Group IV (n=11)	Group V (n=10)	Group VI (n=11)
<b>Gender</b>						
Male	2	5	1	3	3	3
Female	4	4	8	8	7	8
<b>Education</b>						
Less than HS	0	0	2	0	1	0
High School	0	0	2	0	6	0
Some College	3	0	5	0	3	0
Bachelor's Degree	1	4	0	6	0	8
Graduate School	2	5	0	5	0	3
<b>Age</b>						
18-34	3	6	0	0	6	8
35-49	0	3	3	2	3	3
50-64	3	0	2	6	1	0
65+	0	0	4	3	0	0
<b>Heard of GM foods</b>						
	5	9	6	11	5	7

the information was confusing or misleading, and how the placement of the information affected the participants' likelihood of reading it. Participants were also asked their opinions about specific claims (such as the removal of allergens) and of the agency supplying the GM ingredient information (e.g., the US Food and Drug Administration [FDA]).

A strength of focus groups is they help researchers develop general insights into a topic and provide direction in developing more quantitative approaches (in fact, one of the purposes behind these focus groups is to help design and develop a follow-up mail survey). However, because of the limited number of participants and the restrictions of recruiting, focus group results are not generalizable to a given population.

## Results

When asked what characteristics participants looked for (or avoided) when buying food products, most mentioned characteristics of the actual food product (e.g., nutrition), as opposed to the method of food production. Only one participant mentioned that they try to avoid GM foods. However, it is unclear whether most participants truly do not care if food is genetically modified, or

they do care, but the lack of labeling precludes them from actively avoiding such foods.

Most participants have heard of GM foods and are generally able to list the potential benefits and risks associated with these foods. However, most also admitted that they did not know much about the subject. In fact, many participants seemed to equate genetic modification techniques with traditional hybridization and crossbreeding and with the use of hormones and growth stimulants. These results are similar to earlier studies (e.g., Levy & Derby, 2000; Hoban, 1999; Hallman & Metcalfe, 1994), which is somewhat surprising, given the high level of publicity surrounding the StarLink recall of taco shells that occurred during September and October 2000 (many participants stated hearing about "some problem with taco shells").

Although participants generally knew that foods such as corn and soybeans are genetically modified, most participants seemed surprised at the range of food types available. In general, participants underestimated the percent of the US food supply that contained GM ingredients. When told that most processed foods probably contain some GM ingredients, some participants seemed upset because they felt that they should have known this information; Levy and Derby (2000) noted a similar reaction. However, we also found that other participants found the information comforting; these participants combined the fact that GM foods are prevalent with the notion that they had not heard or known of anyone getting sick as positive news.

In some groups the moderator gave participants a copy of an actual advertisement for a product (Soynuts) that was certified as being "GMO-free;" only one participant had ever seen such a claim. Almost all participants agreed that before their participation in the focus group, they would not have known what a GMO-free claim would mean and would have simply ignored it. They also viewed the claim with skepticism, feeling it was simply a marketing tool. One participant pointed out that a GMO-free claim did not mean much when their prior notion is that most foods are free of GM ingredients. Other participants mentioned that the claim did not provide them information as to whether the food was better or worse than a GM food. Participants in the concerned group seemed most skeptical about the claim (in fact, these participants seemed generally skeptical of all mainstream information sources). Almost all participants interpret a GM-free claim as meaning there are no (zero) GM ingredients in the product; anything else is seen as deceptive.

Similar to the reaction noted by Consumers International (1998), almost all participants stated they wanted a mandatory labeling program for GM foods because consumers have a right to know what goes into their bodies. However, this feeling was not unanimous; some participants felt that if the food was tested as safe to eat then it should not need a label. Participants seemed split over whether they would be willing to pay higher food prices to obtain a labeling program.

In terms of what information should be placed on a label, most participants stated that the label should clearly indicate whether the food contains GM ingredients. Similar to Einsiedel (2000) and the National Institute of Nutrition (1998), participants rejected hedging statements such as “may contain.” In addition, participants wanted to know why the genetic modification was done (how the GM food was different) so they could make choices that reflect their desire for, or against, a specific modification.

In general, participants (even those in the concerned group) preferred neutral label information, as opposed to strongly positive or negative labels, because they understood that scientists were not sure about all the long-term health and environmental effects of genetically modifying food. Participants felt that only when there was a clear effect would it be appropriate for a strongly worded positive or negative message. Participants wanted the strength of the message to accurately reflect the state of knowledge about the modification.

Most participants liked including contact information (e.g., a website address or a toll-free number) on the label because it would allow for a simpler, more credible label while also allowing more interested individuals a venue to pursue more information. Others mentioned that contact information is particularly important because most consumers currently do not know much about GM foods and their effects. Participants noted that most people currently do not know enough about the issues and ramifications surrounding GM foods, so for a label to be effective, consumers would first need to be educated. They felt the news media would need to provide more background information about the benefits and costs of GM foods.

In terms of where on the product should information about GM foods fall, most participants liked the idea of having information on both the front and back of the package. In general, participants wanted simpler information on the front (e.g., whether the food was genetically modified and why) and more detailed information on the back (e.g., contact or background information).

When asked who should administer a labeling program for GM foods, most participants stated the FDA should be in charge of the program. Some participants liked the idea of allowing groups like the American Cancer Society to monitor such a program. However, others disliked this approach because these types of groups would focus on only one aspect of the food's healthiness. Participants in the concerned group felt strongly that there should be only one agency or group in charge of a labeling program. However, this group exhibited a significantly higher level of skepticism regarding administration of such a program by governmental groups. Several participants in this group specifically stated their opposition to having the FDA or US Department of Agriculture administer the program.

Most participants (even in the concerned group) did not think that GM foods should be banned. In general, participants seemed to view GM foods in a cautious but optimistic light. They thought that banning such foods would be too extreme, because it would eliminate the potential benefits possible through genetic modification.

## Conclusions

Similar to earlier studies, we find a relatively low level of awareness and understanding of issues surrounding GM foods. This is somewhat surprising given the large amount of media activity surrounding this issue (e.g., an archival search of the Los Angeles *Times* found approximately 75 news articles about genetically modified food since May 2000); at least one major negative media event (StarLink) has occurred since those earlier studies. We also find surprising the negative reactions to “GMO-free” claims; almost all participants view these claims with skepticism. It is particularly surprising that the negative reaction to these claims was heightened in the concerned group. Apparently, the people most likely to purchase a food labeled as free of GM ingredients are also the most skeptical about these claims.

Although the research indicates that consumers desire a labeling program for GM foods, it does not necessarily indicate that such a labeling program should be instituted. One reason is that the nature of focus group research precludes generalizing the results to the US consumer population. In addition, the research here did not adequately present to participants the cost implications of instituting a labeling program. Instituting a labeling program for GM foods may have relatively large costs (Teisl & Caswell, 2002; National Economic Research Associates, 2001), and these costs may differ significantly across types of programs. Thus, the

research here does not conclude that a labeling program should be instituted; rather, the findings can provide guidance on how a labeling program should look if it is determined that a labeling program is warranted.

## References

- Consumers International. (1998). *Consumers International position paper on the proposed draft recommendations for the labelling of foods obtained through biotechnology*. Available on the World Wide Web: <http://www.consumersinternational.org/campaigns/codex/>.
- Einsiedel, E. (2000). Consumers and GM food labels: Providing information or sowing confusion? *AgBioForum*, 3(4), 231-235.
- Hallman, W.K. and Metcalfe, J. (1994). *Public perceptions of agricultural biotechnology: A Survey of New Jersey residents*. Food Policy Institute, Cook College Rutgers, the State University of New Jersey.
- Hoban, T.J. (1999). *Public perceptions and understanding of agricultural biotechnology*. United States Information Agency. Available on the World Wide Web: <http://usinfo.state.gov/journals/ites/1099/ijee/bio-hoban.htm>.
- International Food Information Council. (1999). *U.S. consumer attitudes toward food biotechnology*. Wirthlin Group Quorum Surveys. Available on the World Wide Web: <http://www.ific.org/proactive/newsroom/release.vtml?id=18001>.
- Levy, A.S. and Derby, B. (2000). *Report on consumer focus groups on biotechnology*. Center for Food Safety and Applied Nutrition, United States Food and Drug Administration. Available on the World Wide Web: <http://vm.cfsan.fda.gov/~comm/biorpt.html>.
- National Institute of Nutrition. (1998). *Nutrition labelling in Canada: The Nutrition information panel*. Ottawa, Canada: National Institute of Nutrition.
- National Economic Research Associates. (2001). *Economic appraisals of options for extension of legislation on GM labelling* (final report). London: Food Standards Agency.
- Teisl, M.F. and Caswell, J.A. (2002, June 24-27). *Information policy and genetically modified food: Weighing the benefits and costs*. Paper presented at the World Congress of Environmental and Resource Economists. Monterey, CA.
- Teisl, M.F., Halverson, L., O'Brien, K.A., Roe, B., Ross, N., and Vayda, M. (2002). *Designing a labeling policy for genetically modified food: Results of focus group research* (Publication No. 2566). Orono, Maine: Maine Agricultural and Forest Experiment Station.
- Walsh, J. (1999, January 11). Brave new farm. *Time Magazine*, p.87.

## Note

This project was financed in part by a US Department of Agriculture - National Research Initiative Grant (#2001-35400-10548), and the Maine Agricultural and Forest Experiment Station. Although the research described in this article has been funded in part by the USDA, it has not been subject to the Agency's required peer and policy review and therefore does not necessarily reflect the views of USDA and no official endorsement should be inferred. All errors and omissions are the sole responsibility of the authors. Maine Agricultural and Forest Experiment Station Publication No. 2567.