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Consumer Opinions on Genetically Modified Food: A Community Discussion

August 2005

A project of the University of Nebraska Public Policy Center in collaboration with Leadership Lincoln.

University of Nebraska Public Policy Center 121 South 13th St., Suite 303 Lincoln, NE 68588-0228
Phone: (402) 472-5678 Fax: (402) 472-5679 http://www.ppc.nebraska.edu
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Key Findings of the Genetically Modified Food Community Discussion Held in Lincoln, Nebraska, August 2005

- After participating in the community discussion, 73% of participants had positive attitudes towards genetically modified food.

- Nearly two-thirds (65%) of participants perceived the benefits of producing or consuming genetically modified food outweighed the risks.

- Slightly over half (52%) of the participants wanted labels identifying genetically modified food, which is significantly lower than results from other studies.

- When asked what kind of information they would like to see on a label, 65% of participants felt it was very or extremely important to list warnings associated with the modification. Additionally, 63% and 65% respectively felt it was not as important to include why or how the ingredients were genetically modified.

INTRODUCTION

On Saturday, August 20, 2005, 48 residents of Lancaster County gathered at Gere Branch Library in Lincoln to participate in a "Citizen Deliberation on Genetically Modified Food." A citizen deliberation is a technique used to promote informed and thoughtful public discussion on public affairs or policy issues and a means for gauging considered (as opposed to off-the-cuff) public opinions.[1] The purpose of the discussion was to gauge informed public opinion on genetically modified food products and whether they should be labeled. The event was co-sponsored by the University of Nebraska Public Policy Center (http://www.ppc.nebraska.edu/) and a local community leadership development organization, Leadership Lincoln (http://www.leadershiplincoln.org/).

Genetically Modified Food and Labeling Policies

A genetically modified plant contains a gene or genes inserted into or deleted from its DNA by artificial methods, rather than through traditional pollination techniques. Inserted genes provide the plant with a variety of features: higher yield, improved quality, pest or disease resistance, or tolerance to heat, cold, and drought. This developing technology has initiated debate concerning the advantages and disadvantages of genetically modified crops and food.

Sample:

This Product contains 13% genetically modified ingredients derived from peanuts.

The current labeling policy in the United States is varied. Producers may voluntarily label their products as having been made with genetically modified ingredients or without. Labeling is mandatory for a product that is "significantly different" from its traditional counterpart, meaning the product contains a food allergen or has altered nutritional characteristics.

Public opinion regarding genetically modified food suggests neither overly positive nor negative reactions. Some research suggests consumers feel optimistic about specific uses of biotechnology while other research indicates the majority is unaware, uninformed, or uncertain about biotechnology in food production.[2] Many polls reveal an interest by Americans to implement a stronger regulatory system for genetically modified products.[3]

The Community Discussion Format

Prior to the community discussion, a sample of consumers from Lancaster County, Nebraska completed an online survey concerning their knowledge and opinions on genetically modified products. Upon completing the survey, they received background information on the topic and

were invited to attend the deliberation (see *Appendix A* for a summary of the background information).

At the deliberation, the participants were randomly assigned to groups where they discussed genetically modified food and what standards should be used for labeling. Following this discussion, a panel of experts from the University of Nebraska-Lincoln (see *Table 1*) answered questions from discussion group members.

At the end of the day, participants took a post-event survey to gauge whether the deliberative process improved their knowledge about and/or changed their opinions regarding genetically modified food. Several participants who participated in the deliberation did not complete the pre-survey. The data reported is based on only the survey results from the 48 participants who completed both the pre- and the post- surveys.

Table 1: The Plenary Panel

The panel included the following faculty members from the University of Nebraska-Lincoln:

Dr. P. Stephen Baenziger
Professor of Agronomy and Horticulture

Dr. Thomas Clemente
Professor of Agronomy and Horticulture

Dr. Michael Fromm
Director of the Center for Biotechnology

Dr. Richard Goodman
Professor of Food Science and Technology

Dr. Anne Vidaver
Professor of Plant Pathology

Who attended the Discussion?

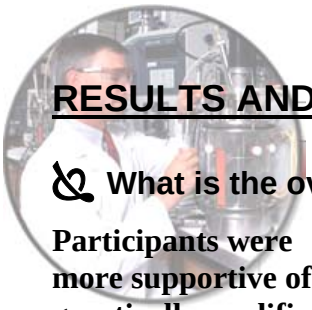
Forty-eight people participated in the Genetically Modified Food Community Discussion. Invitations were sent to individuals who had not participated in prior deliberative events and those who had participated in two prior deliberative events hosted by the PPC: A *By the People* discussion (a PBS-led project involving 17 communities and over 1,500 people in October 2004)[4] and a discussion on the "Future of Lincoln."[5] Over 80% of the participants in this genetically modified food discussion had attended a previous event (see *Table 2*).

A detailed demographic profile is in *Appendix B*. Nearly two-thirds of the participants were women. Most of the participants were white (70.3%) and a majority had a college degree (54.2%).

The discussion participants were not a representative sample of Lancaster County, Nebraska. There was a significant overrepresentation of persons with a college education and those who were between 55 and 74 years of age. Participants were also more likely than Lancaster County residents to be racial minorities and/or women.

Table 2: Previous Deliberation Participation (*N*=48)

	Number of Participants	Percentage of Participants
Participated in *By the People*, October 2004	28	58.3%
Participated in *Future of Lincoln*, February, 2005	11	22.9%
Have not participated in deliberative event	8	16.7%
Other	1	2.1%

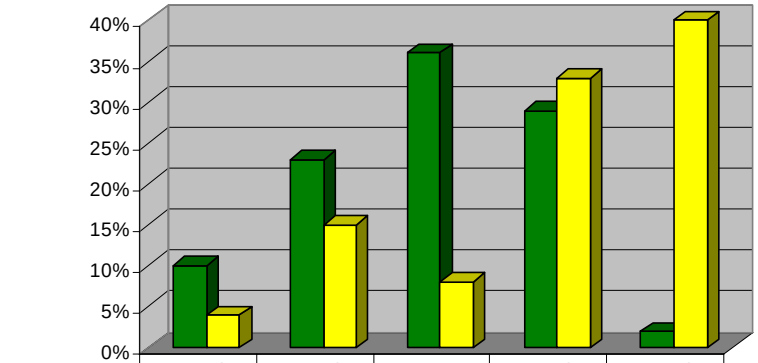


RESULTS AND DISCUSSION

What is the overall opinion regarding genetically modified food?

Participants were more supportive of genetically modified food following their participation in the deliberation event. In the pre-survey, 31% reported either a favorable (2.1%) or somewhat favorable (29.2%) attitude towards genetically modified food. In the post-survey, 72.9% of participants reported either a favorable (39.6%) or somewhat favorable (33.3%) attitude towards these products**.** See *Figure 1*.

Figure 1: Change in Overall Opinion Responses (*N*= 48)



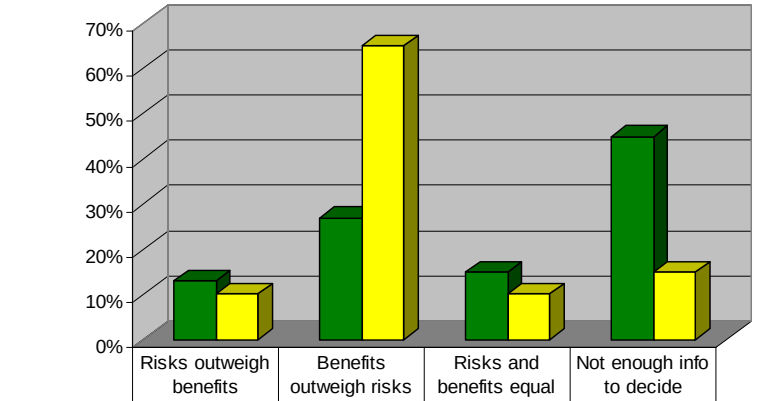
	Strongly Unfavorable	Somewhat Unfavorable	Neither	Somewhat Favorable	Strongly Favorable
Pre-survey	10%	23%	36%	29%	2%
Post-survey	4%	15%	8%	33%	40%

In a recent survey by the Pew Initiative on Food and Biotechnology, 25% of participants favored introducing genetically modified food into the food supply.[6] While this number is comparable to the results of the pre-survey from this discussion, the marked increase in the post-survey may indicate that as consumers gain knowledge about genetically modified food, they will be more be more favorable.

Do the risks of using genetically modified products outweigh the benefits?

Participants were asked whether they felt the risks of genetically modified food outweighed the benefits or vice versa. **In the post-survey, nearly two-thirds of the participants (64.6%) felt that the benefits of using genetically modified products outweighed the risks**. See *Figure 2*. In the pre-survey, 45% felt that they did not have enough information to determine the benefits and risks. This percent decreased to 15% in the post-survey. This suggests that participants learned

Figure 2: Benefits Versus Risks (*N*= 48)



	Risks outweigh benefits	Benefits outweigh risks	Risks and benefits equal	Not enough info to decide
pre-survey	13%	27%	15%	45%
post-survey	10%	65%	10%	15%

enough about the issue in the discussion to form an opinion on the topic.

National surveys indicate that consumers are more accepting of the use of genetically modified food when they derive direct benefits from the modification.[7] These opinions concerning benefits and risks may also be shaped by the consumer's level of knowledge regarding genetically modified food.

Would consumers like to have genetically modified products labeled?

When asked whether they supported labeling policies, **participants were less supportive of mandatory labeling policies following their participation in the deliberation event.** In the pre-survey, 87.5% indicated they would like to have products with genetically modified ingredients labeled. In the post-survey, the percentage of affirmative responses dropped to 52.1%.

Table 3: Affirmative Reponses to Labeling

	Pre-Survey (*n*=47)	Post-Survey (*N*=48)	Pew[8] 1999	Harris[9] 2000	Pew[10] 2004
Percentage of respondents that would like to see a label.	87.5%	52.1%	84%	86%	92%

In national studies the percentage of pre-deliberation affirmative responses towards labeling is very similar to those in this study. In these same studies responses to what type of information should be included vary dramatically, supporting the indication that consumers are uncertain about the specifics of a labeling policy. See *Table 3*.

One possible explanation for this significant change is that defining adequate labeling policies is difficult. Group members began the discussion of labeling strongly asserting their desire for labeling. The primary reason was to protect their right to know what is in the food they were purchasing. Yet, as the discussion progressed to what specific information should be included on the label and the cost of labeling, the support for labeling waned. Members wrestled with the complexity of whether food containing genetically modified ingredients should be labeled, or those that did not. What should the threshold percentage of genetically modified ingredients be for requiring a label? What information should the label contain?

What information should appear on a label?

The participants were asked to rate the importance of several different items of information that could potentially appear on a genetically modified food label. **Participants prefer labels listing warnings associated with the modification over labels that explain why or how ingredients have been genetically modified.** In the post-survey, 64.6% felt labels with warnings were extremely or very important, while labels stating why or how they had been modified received 16.7% and 12.5%

Table 4: Preferences for Labeling (*N*=48)

Rate the importance of each statement	Pre-Survey	Post-Survey
Labels should state which ingredients in a product are genetically modified.		
Not at all important	2.1%	29.2%
A little important	6.3%	10.4%
Somewhat important	29.2%	22.9%
Very important	37.5%	16.7%
Extremely important	25.0%	20.8%
Labels should state why the ingredients are genetically modified.		
Not at all important	18.8%	45.8%
A little important	20.8%	16.7%
Somewhat important	27.1%	20.8%
Very important	18.8%	12.5%
Extremely important	14.6%	4.2%

rating them as extremely or very important respectively. See *Table 4*.

Other national surveys demonstrate this same support for warnings. In one survey, 31% of those responding chose a warning concerning pesticide while only 17% chose information regarding which ingredients had been genetically modified.[11]

Table 4: Preferences for Labeling cont'd.

Rate the importance of each statement	**Pre-Survey**	**Post-Survey**
Labels should state how the ingredients are genetically modified.		
Not at all important	16.7%	43.8%
A little important	27.1%	20.8%
Somewhat important	29.2%	22.9%
Very important	16.7%	8.3%
Extremely important	10.4%	4.2%
Labels should list any warnings associated with the modification.		
Not at all important	0%	6.3%
A little important	6.3%	8.3%
Somewhat important	27.1%	18.8%
Very important	35.4%	29.2%
Extremely important	31.3%	35.4%

What do consumers know about Genetically Modified Food?

The pre- and post-surveys contained identical questions to gauge participants' knowledge regarding genetically modified food and labeling policies. **Participants' correct responses to these knowledge questions increased for 10 out of 12 questions.** See *Table 5*. The results from the pre- to the post-survey show that the overall average knowledge score increased from approximately 6.6 to 8.7 correct answers on a scale of 0-12. For some specific questions, the correct response rate increased as much as 61%.

Comparing the participants' responses to national surveys, the Lincoln, Nebraska sample demonstrated greater knowledge than the groups tested in the other studies. See *Table 6*. Four questions in this study were similar to language in previous surveys. One true/false question stated: Comparing the participants' responses to

Table 5: Knowledge Questions Results (*N*=48)

	Pre-Survey	**Post-Survey**
Multiple Choice Questions	*Correct*	*Correct*
What percentage of the food sold in the United States is genetically modified or contains genetically modified ingredients? (**60-70%**)	2.1%	25%
In 2004 what percentage of corn planted in the U.S. was genetically modified? (**45%**)	29.2%	39.6%
In 2003 what percentage of total global crop acreage was planted in genetically modified varieties? (**25%**)	31.3%	31.3%
To the best of your knowledge, do plants have: (**Both RNA and DNA**)	68.8%	58.3%
Which country is currently the world's leader in the production of genetically modified crops? (**United States**)	70.8%	87.5%
How many agencies of the U.S. federal government are involved in the regulation of genetically modified food and crops? (**3**)	18.8%	79.2%
True or False Questions	*Correct*	*Correct*
Ordinary corn does not contain genes but genetically modified corn does. (**False**)	81.3%	97.9%
By eating a genetically modified fruit, a person's genes could also become modified. (**False**)	89.6%	95.8%
It is impossible to transfer animal genes into plants. (**False**)	50%	79.2%
Genetically modified plants or animals are always bigger than ordinary ones. (**False**)	81.3%	85.4%
Foods containing genetically modified ingredients are more likely to cause allergic reactions than foods which do not include genetically modified ingredients. (**False**)	70.8%	100%
Foods containing genetically modified ingredients are required by United States law to be labeled. (**False**)	62.5%	89.6%

national surveys, the Lincoln, Nebraska sample demonstrated greater knowledge than the groups tested in the other studies. Four questions in this study were similar to language in previous surveys. One true/false question stated: "Foods containing genetically modified ingredients are required by U.S. law to be labeled." In this survey, more respondents correctly answered "False" to this question (89.6%) than respondents who were asked a similar question in other studies. For example, Hallman and colleagues reported in 2004 that only 33 % of respondents were able to correctly answer a question about U.S. law requiring genetically modified food to be labeled.[12]

Table 6: Comparison to National Data (*N*=48)

Knowledge Question *True or False Questions*	**Pre-Survey**	**Post-Survey**	**Priest 2004**	**Hallman 2003**	**Hallman 2004**
Ordinary corn (tomato) does not contain genes but genetically modified corn (tomato) does. (**False**)	81.3%	97.9%	85.8%	57%	
It is impossible to transfer animal genes into plants. (**False**)	50%	79.2%		48%	
Genetically modified plants or animals are always bigger than ordinary ones. (**False**)	81.3%	85.4%		57%	
By eating a genetically modified fruit a person's genes could become modified. (**False**)	89.6%	95.8	86.4%	68%	
Foods containing genetically modified ingredients are required by United States law to be labeled. (**False**)	62.5%	89.6%			33%

ISSUES FOR THE FUTURE

The community discussion concerning genetically modified food provided an opportunity for citizens to learn about the policies, risks and benefits of this developing technology. Although the sample of participants was small, it can provide producers, policymakers and persons interested in further research an example of an effective research method, as well as to shed light on issues such as:

- ***Paradox Between Citizen Desire to Know the Warnings Associated with Genetically Modified Food and Citizen Opposition to Labeling Genetically Modified Products.*** Although the Lincoln participants wanted to know about any warnings associated with genetically modifying food, they also were leery of the complications associated with labeling genetically modified products. A future community discussion on genetically modified food might focus on addressing this paradox. Citizens might be asked how they would prefer to receive information regarding the warnings surrounding genetically modified food, if they did not support labeling.

- ***Perception of Direct Benefits.*** Participants of this discussion were strongly supportive of genetically modified food and felt the benefits gained from the technology were greater then the associated risks. Future research might look at what specific benefits participants feel are gained from genetic modification to examine whether their attitudes are based on the perception that consumers are directly benefiting from the modification.

- ***Impact of the Deliberative Process on Attitudes Concerning Genetically Modified Food.*** The results from this study indicate that participating in the deliberative process significantly affected the participants' opinions regarding genetically modified food. Other national studies indicate that increased knowledge about genetically modified food does not necessarily correlate with increased acceptance of its use. Future research could further explore the impact of the deliberative process on consumers' opinions. Are differences due to sample considerations, to the kinds of discussions that took place in Lincoln, or other factors?

Finally, a caveat about the Lincoln discussion on genetically modified food. The expert panelists were very supportive of genetic modification of food. They also came across as thoughtful, engaging and responsive to the comments and questions from the participants. The panelists were credible sources of information, coming from a variety of academic disciplines from the state's major university. The expert panel *lacked* individuals with concerns and doubts about genetic modification of food and its impact on society. The panel's positive perspectives may have influenced the participants overall opinion of genetically modified food, causing the dramatic increase in favorable responses towards genetically modified food in the post-survey. In future forums, there should be every effort to ensure that a credible scientist with concerns about genetically modified food is included in the expert panel.

Appendices

Appendix A: Background Information

During the last two decades a considerable amount of time, effort and money has been invested in the research and development of agricultural biotechnology. One particular application has been the development of genetically modified food products. From 1996 to 2003, planted acres of genetically modified crops increased more than twenty-fold.[13] At present, most of the applications of agricultural biotechnology have been aimed at increasing productivity and decreasing costs in the fields. Ultimately these products end up in the food supply. As the use of these products has increased, so has the controversy over their safety. The policy implications touch many areas: economics, environmental effects, food safety and supply concerns, and ethics.

Science of Genetically Modified Food

A genetically modified plant contains a gene or genes inserted into or deleted from its DNA by artificial methods, rather then through traditional pollination techniques. The inserted gene may come from another, unrelated plant, or from a completely different species such as a bacterium or even an animal. Inserted genes provide the plant with a variety of features: higher yield, improved quality, pest or disease resistance, or tolerance to heat, cold, and drought. Crops which are genetically modified are also termed genetically engineered or transgenic.[14]

Genetic modification techniques give plant breeders access to genes and traits not available through traditional pollination techniques. For example, inserting a bacterial gene into corn is not possible using traditional techniques. Plant breeders use genetic modification methods to make the plant more useful and productive. This new and developing technology has initiated debate concerning the potential advantages and disadvantages of agricultural biotechnology generally and genetically modified crops and food specifically. The benefits and risks of GM crops are shown in the above figure.

Benefits versus Risks of Genetically Modified Crops

Benefits of GM Crops

- **Increased Agricultural Yield and Efficiency**- As genetically modified crops increase productivity on the farm, it may lead to decreased food costs for consumers
- **Pest Resistance**- Some varieties of genetically modified crops produce their own pesticides that may reduce pesticide application in the fields.
- **Herbicide Tolerance**- There is evidence that herbicide-tolerant genetically modified plants may result in reduced soil erosion and herbicide application.
- **Nutrition Benefits**- Food can be modified so that they have greater nutritional benefits, which may be of great use in countries where there are significant food shortages
- **Medical Benefits**- Scientists are conducting research on using genetically modified crops to cheaply and effectively produce human medicines

Risks of GM Crops

- **Ecological Effects**- Potentially, increases of genetically modified crops may negatively affect the environment. For example, genes for herbicide resistance could potentially be transferred from a genetically modified crop to natural relatives, or crops modified to be pest resistant could affect non-pest organisms.
- **Human Health Effects**- Genetically modified food may contain unexpected allergens, depending on the genes inserted. Additionally, although no harmful health effects have been found or are likely, the long-term effects of eating genetically modified food are still not fully known.
- **Effects on Farming**- As more and more seed stock becomes genetically modified, increasing amounts of seed fall under the control of biotech companies rather than that of individual farmers.

Public Opinion and Policies Concerning Genetically Modified Food

Public opinion regarding genetically modified food in the U.S. suggests neither overly positive nor negative reactions. Some research suggests Americans feel optimistic about specific uses of biotechnology.[15] Other research indicates the majority of Americans are unaware, uninformed, or uncertain about biotechnology, especially in food production.[16] Opposition to genetically modified food in the U.S. used to be extensive, but now is softening[17] and awareness of genetically modified products is increasing slightly.[18]

Public opinions about genetically modified food can have a potentially significant impact on policy formation.[19] In response to the negative consumer attitude towards these products, the European Union (EU) imposed stringent approval processes for new genetically modified products and required labeling on all products containing more than .9% of genetically modified ingredients. Importation of genetically modified products into Europe has been severely restricted and as a result, U.S. exports to Europe have been limited.[20] The U.S. response has been two-fold: it has filed a complaint against the EU with the World Trade Organization (WTO), and some U.S. farmers and food producers have hesitated producing or using genetically modified crops and products.[21] The EU, Russia, Japan, and Australia are important agricultural trading partners for the U.S., and the differences in labeling policies have created export difficulties.

The U.S. regulatory polices governing genetically modified products do not mirror the dramatic response in Europe. Voluntary labeling is the current U.S. policy. Producers and manufacturers may label their products either as having been made with or without genetically modified ingredients**.** Labeling is mandatory for products that are "significantly different" from its traditional counterpart, that is if the product contains a food allergen or has altered nutritional characteristics. Three separate federal agencies – the U.S. Department of Agriculture, the Food and Drug Administration and the Environmental Protection Agency - are responsible for regulation of genetically modified products. It has resulted in disjointed regulation that some allege has fallen behind the technological innovations currently being developed and adopted.

Legislation has been introduced on the state and federal level to improve the current regulatory situation with regard to genetically modified food.

- In 2003, U.S. Representative Dennis Kucinich (D-Ohio) introduced the "Genetically Engineered Food Right to Know" Act; a similar bill was introduced in the Senate by Senator Barbara Boxer (D-California). The bills require mandatory labeling for genetically modified food, though

neither reached for floor for a vote.

- The state legislatures in New York and Alaska considered legislation relating to labeling in 2005.[22]
- In 2002, Oregon voters defeated a ballot initiative (Measure 27) that would have mandated the labeling of all genetically engineered food and food additives.
- In 1994, a federal court in Vermont struck down a state law requiring labels on milk that came from cows injected with a genetically modified hormone, holding that the label was an unnecessary warning implying that the product was unsafe.

Public opinion polls have revealed an interest by the American public to implement a stronger regulatory system for genetically modified products.[23] Stronger options include labeling genetically modified food, or giving an opportunity to label products as "Genetically Modified Free" when no genetically modified ingredients are used. The U.S. could also require labeling by the percentage of the final product that consists of genetically modified ingredients. South Korea and Japan mandate labeling of products with over 2% or 5%, respectively. One percent is the threshold for mandatory labeling in Australia and New Zealand. The EU and Russia have the most stringent labeling requirements, mandating labeling on products containing over .9% of genetically modified ingredients.[24]

Appendix B: Demographic Profile*

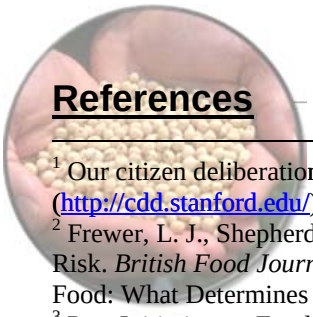
		Deliberation (*N*=48)	Lancaster County (*N*=250,291)
Gender	Male	35.4%	50.0%
	Female	64.6%	50.0%
Race and Ethnicity	White	70.8%	
	Non-white Hispanic	4.2%	
	African American	2.1%	
	Asian	0%	
	Native American	4.2%	
	Other	6.3%	
	No response	12.5%	
	White		90.1%
	Black or African American		2.8%
	American Indian/Alaska Native		.06%
	Asian		2.9%
	Native Hawaiian/Pacific Islander		.01%
	Some other race		1.7%
	Two or more races		1.9%
	Hispanic or Latino (of any race)		3.4%
Education†	Some and Less than high school		8.2%
	High school graduate	12.5%	24.8%
	Trade or technical school	2.1%	Not Reported
	Some college	14.6%	22.2%
	College graduate	54.2%	34.6%
	Graduate school	16.7%	10.4%
Age‡	24 and Under		39.0%
	25-34	2.1%	15.3%
	35-44	20.8%	15.1%
	45-54	22.9%	13.1%
	55-64	31.3%	7.2%
	65+	20.8%	10.4%
Party Affiliation§	Democrat	47.9%	38%
	Republican	33.3%	44%
	Other	16.7%	18%

* Source for Gender, Age, and Race and Ethnicity of Lancaster County is from the United States Census Bureau (n.d.). *Census 2000 Demographic Profile Highlights*. Retrieved November 17, 2005, from http://factfinder.census.gov/servlet/SAFFFacts?_event=&geo_id=05000US31109&_geoContext=01000US%7C04000US31%7C05000US31109&_street=&_county=Lancaster+County&_cityTown=Lancaster+County&_state=04000US31&_zip=&_lang=en&_sse=on&ActiveGeoDiv=&_useEV=&pctxt=fph&pgsl=050

† Education data is from the United States Census Bureau (n.d.). *2004 American Community Survey*. Retrieved November 17, 2005http://factfinder.census.gov/servlet/ADPTable?_bm=y&-geo_id=05000US31109&-qr_name=ACS_2004_EST_G00_DP2&-ds_name=&-redoLog=false. Based on *N*=164,162 estimate.

‡ Based on *n*=47.

§ Party Identification from the Nebraska Secretary of State (n.d.). *Official Results-2004 General Election*. Retrieved November 17, 2005 from http://www.sos.state.ne.us/elec/canvass/general2004/RegisteredVoters.htm. Based on *n*=47.



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[1] Our citizen deliberation approach is based on the work done by Professor James Fishkin and his colleagues (http://cdd.stanford.edu/) and by the Kettering Foundation's National Issues Forum (http://www.nifi.org/).

[2] Frewer, L. J., Shepherd, R., & Sparks, P. (1994). Biotechnology and Food Production. Knowledge and Perceived Risk. *British Food Journal*, *96*, 26-32; Frewer, L. J., Howard, C., & Shepherd, R. (1995). Genetic Engineering And Food: What Determines Consumer Acceptance? *British Food Journal*, *97*, 31-36.

[3] Pew Initiative on Food and Biotechnology. (2004, November). *Public Sentiment About Genetically Modified Food: November 2004 Update.* Retrieved November 17, 2005 from http://pewagbiotech.org/research/2004update/.

[4] *See* http://ppc.nebraska.edu/ByThePeople/10-04event.htm.

[5] *See* http://ppc.nebraska.edu/program_areas/documents/LincolnDeliberation.htm.

[6] Pew Initiative on Food and Biotechnology. (2005, November). *Public Sentiment About Genetically Modified Food: November 2005 Update.* Retrieved December 14, 2005 from http://pewagbiotech.org/research/2005update/.

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[8] Shanahan, J., Scheufele, D., & Lee, E. (2001). The Polls—Trends: Attitudes about Agricultural Biotechnology and Genetically Modified Organisms. *Public Opinion Quarterly*, *65*, 267-281.

[9] Shanahan et al., *supra* note 8. Question worded as: "Do you think the government should require the labeling of all packaged and other food products stating that they include corn, soy, or other products which have come from genetically modified crops, or is that not important?"

[10] Pew Initiative on Food and Biotechnology, *supra* note 3.

[11] James, J. (2004). Consumer Knowledge and Acceptance of Agricultural Biotechnology Vary. *California Agriculture*, *58*, 103-104. Retrieved December 20, 2005 from http://californiaagriculture.ucop.edu/0402AMJ/pdfs/consumer.pdf.

[12] Hallman and colleagues asked respondents whether they believed genetically modified food products are required to be labeled in the United States. Participants could answer yes, no, or unsure.

[13] Pew Initiative on Food and Biotechnology. (2004, August). *Factsheet: Genetically Modified Crops in the United States.* Retrieved November 17, 2005 from http://pewagbiotech.org/resources/factsheets/display.php3?FactsheetID=2.

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