

Parallel Session 22: Public Perceptions of GMO's

DIFFERENCES IN PERCEPTIONS OF AGRICULTURAL BIOTECHNOLOGY: A COMPARISON STUDY BETWEEN GERMANY AND THE UNITED STATES.

Helen L. Aquino¹, MS. and William K. Hallman², PhD., Food Policy Institute

¹ *Research Analyst & Project Coordinator, Food Biotechnology Program, Food Policy Institute, Rutgers University, 3 Rutgers Plaza, New Brunswick, NJ, 08901, USA, voice: 732-932-1966 x3102, FAX:732-932-9544, E-mail: aquino@aesop.rutgers.edu, website: www.foodpolicyinstitute.org*

² *Associate Professor of Human Ecology and Director of the Food Biotechnology Program, Food Policy Institute, Rutgers University, 3 Rutgers Plaza, New Brunswick, NJ, 08901, USA, voice: 732-932-1966 x3103, FAX:732-932-9544, E-mail: hallman@aesop.rutgers.edu, website: www.foodpolicyinstitute.org*

Abstract

To understand differing attitudes, knowledge and opinions about GM food, 29 qualitative interviews were conducted in Germany and the United States. Individual cognitive maps were created to examine relevant constructs. The findings suggest differences exist related to the perceived consequences of the technology. While Americans largely focus on the potential impact of GM food on their own lives, Germans focus much more on the potential impacts to the environment. These findings have important implications for understanding the differences in how GM is perceived in each country.

Key words: Public Opinion, Public Understanding of Science, Risk Communication

Context

Differences in opinion about agricultural biotechnology are substantial between the American and European publics. In addition to distinct public policy approaches, there may be inherent underlying perceptual differences that influence the perceived acceptance of the technology. Considering these differences may be useful in guiding policy makers and in shaping communications relevant to the global debate about genetically modified foods.

Objective

To determine what underlying differences exist between how Germans and Americans perceive GM food related risks.

Methods

Fifteen qualitative, face-to-face interviews focusing on knowledge, opinions and attitudes concerning genetically modified food were conducted in Germany and 14 were conducted in the United States. High school teachers were recruited as a

convenience sample by phone and e-mail from both countries. Interviews in both countries were conducted in English. Using a conversational format, participants were asked to tell what they knew about genetically modified food. After this initial conversation was exhausted, follow-up questions were used to probe the constructs produced by the respondents. Interviews were recorded, then transcribed verbatim and coded for common themes. Interviews were conducted with 11 males (4 American & 7 German) and 18 females (10 American & 8 German) and averaged 31.5 minutes overall. Participation fees were paid in cash at the end of the interview (\$25 USA & 30euro Germany). From these analyses, individual cognitive maps were created to examine the constructs used by participants to elucidate what they know and feel about genetically modified food.

Results

Overall awareness and knowledge of GM food seemed to be greater for the German participants than for the Americans. The German respondents were able to consistently provide more complete and elaborate arguments related to the pros and cons of the technology. In general there was also a greater sense of passion apparent in the German interviews than in those conducted in the US.

The defining constructs used to describe GM food also differed between the United States and Germany. Within each interview a dominant theme emerged. While health concerns were expressed in both countries, the German respondents were much more vocal about the possible environmental effects associated with the production of GM foods. Nine of the 15 teachers interviewed in Germany focused their conversations about GM food most heavily on their concerns about the environmental risks posed by producing agricultural biotechnology crops.

In contrast, 12 of the 14 American interviewees focused their concerns on the risks of GM foods for their own or their family's health. Only 4 Americans voiced any environmental concerns whatsoever

Themes within the German interviews reflected the perception of an ominous threat of "unintended consequences" or that the "long term effects are still largely unknown" for the environment. Of particular note were issues related to potential cross-contamination caused by gene flow from air pollinated plants such as corn and the possible ramifications of such cross pollination on the balance of the ecosystem. Many referred to the "unbalance of natural habitats" or the "upset of the ecological balance of nature" due to the introduction of "manufactured genes with the potential to change nature permanently on the genetic level." Others expressed the idea that evolution would somehow become unbalanced due to the effects of "monocultures reducing the gene pool." One interviewee surmised the environmental threat as the ever-present "danger in constant change and the human influence on our food". Several of the German interviewees had recalled hearing about specific environmental threats to wildlife such as to caterpillars, birds, and ants.

In contrast, few of these themes emerged for the Americans. Of the four American respondents who mentioned environmental concerns, these were

typically expressed as the need for long-term studies that would evaluate the possible effects on the environment. In only two interviews were concerns expressed about the possible effects to the “balance of the ecosystem.”

For the Americans, the primary health concerns were related to the perception that GM implied something artificial added to their food. These concerns were seen as analogous to the perceived food health risks related to the addition of hormones and antibiotics, particularly in animal production. Other concerns focused on the uncertain unintended consequences of consuming these foods over the long term. These included ideas that eating GM foods might lead to cancer or other diseases, or acute or chronic threats to human health.

Participants in both countries stressed a need for clear information regarding food safety risks that could be made available to consumers by objective sources. Most said they did not want this information from industry or government but instead would prefer and trust a source without any economic interests or ties to the biotech industry. For most, the subject of information sources was broached unaided and highlighted within a framework of past experience with BSE for the Germans and hormones/antibiotics for the Americans. The “mad cow” experience seems to have put Germans on a heightened awareness about food safety issues.

While agricultural biotechnology was understood by almost everyone in both countries as having great potential, for the Germans, this awareness was overshadowed by the possibility of “risky biological dangers”. Many in Germany were skeptical about industries strong economic motivations taking precedent over sufficient environmental impact considerations. There was an understanding that agricultural biotechnology has the capability to reduce world hunger but this was interpreted as problematic for the Germans since, “people who are hungry won’t even think about the risks or damage that could be done.”

Perceptions of an adequate time for testing to determine these possible risks were expressed within a range of 30 to 100 years for the Germans. Americans also stressed a need for long-term studies related to implications for human health but offered a much shorter time frame of 10 to 50 years. In contrast, while their health concerns were paramount for the American interviewees most said if they received information that GM food was safe then this would alleviate these fears.

Conclusions

Based on this small sample of respondents in the United States and in Germany, there may be clear differences in the primary concerns of consumers about GM foods in each country. Information materials, public debate, and policy decisions about the potential risks and benefits of GM foods should take these differences into consideration.

