

Vermonters and Labeling of Genetically Engineered Foods  
Vermont Poll 2004

**The Center for Rural Studies  
207 Morrill Hall  
University of Vermont**

**Prepared by:  
Emilian Geczi, Amy S. Hoskins, Jane M. Kolodinsky, Ph.D.**



## Introduction

Genetically engineered (GE) foods, also known as bioengineered or genetically modified (GM), have made phenomenal headway in the U.S. and world food markets. The last ten years have witnessed a substantial proliferation of GE products in our food system. Many governments have passed laws or issued guidelines that regulate, to varying degrees, the spread of these products. Despite the fact that consumer knowledge of genetic engineering is low in the U.S., the majority of consumers report that they want labels on foods to indicate whether or not the product contains genetically modified ingredients.

Existing research indicates that 85% of U.S. residents want labels on foods indicating whether or not the product contains genetically modified ingredients. Of these, 46% want only the GMO foods labeled, 42% want all foods labeled, and 11% want non-GMO food labeled (Teisl et al., 2003). While a high proportion of U.S. residents favor labeling, the self-reported knowledge about genetically engineered foods is low. Only 34% of people reported in 2003 that they had heard “a great deal or some” about genetically modified foods (Pew Initiative on Food and Biotechnology, 2003.)

A section of the 2004 Vermonter Poll sought to gauge the Vermonter perspective on labeling of genetically engineered foods. After analyzing the data, we were able to draw several important conclusions about Vermonters’ knowledge of and attitudes toward labeling genetically engineered food products. We also identified several possible relationships between the Vermonters’ perspectives on GE labeling and their age, income level, educational attainment, family composition and time spent in Vermont.

## Methods and Data

The data used in this report came from this year’s Vermonter Poll, a telephone survey conducted annually by the Center for Rural Studies at the University of Vermont. The 2004 Vermonter Poll asked residents questions on issues related to public policy in Vermont as well as questions about demographics. Trained and supervised interviewers administered the survey using Computer-Aided Telephone Interviewing (CATI) software. The survey took place between the hours of 4:00pm and 9:00pm during February 2004. Telephone numbers were selected through random digit dialing from a list of all Vermont households with active, land-based phone lines. The survey required its respondents to be Vermont residents who were 18 years of age or older. The sample was statistically representative of the adult Vermont population with a 95 percent level of confidence.

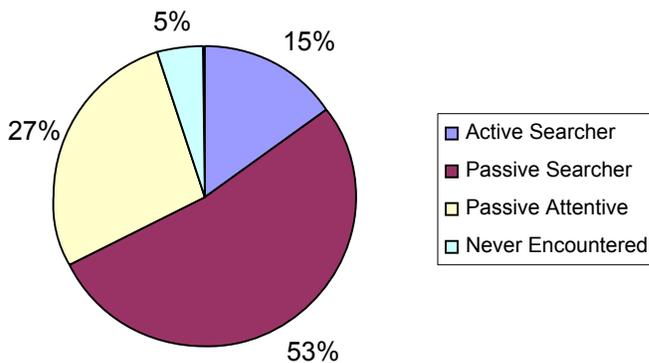
The sample contained 693 respondents, and 646 of those who were called completed the entire survey. Forty-five percent (45%) of the sample were male, and 55% were female. The average age in the sample was 50 years old. The median household income category was \$35,001 to \$50,000. The median education level completed was some college with no degree, and 41% of respondents reported completing a bachelor's degree or higher. The majority of households consisted of two adults, with only 37 percent of respondents with one child or more in the house. The responses were analyzed using the Statistical Package for Social Scientists (SPSS) version 11. Significant findings in this report reflect a 90% confidence level or greater.

## Analysis and Results

### *GE Information Searching and Label Reading*

Two questions on our survey sought to elicit information on the respondents' current label reading practices. Under the current voluntary labeling programs, food producers may choose to label their products as "GMO-free", "does not contain GMO ingredients", or with other labels. First, we asked whether the respondent actively sought information on GE ("active searcher"), paid attention to information if it caught their eye ("passive searcher"), had encountered information but did not pay attention ("passive attentive"), or had never encountered information on GE. More than half of the respondents reported that they paid attention to information if it caught their eye, while just 15.2% claimed that they actively sought GE information (Figure 1).

**Figure 1: Type of Information Searcher**



*N*=422

Source: Center for Rural Studies, UVM, 2004 Vermonter Poll.

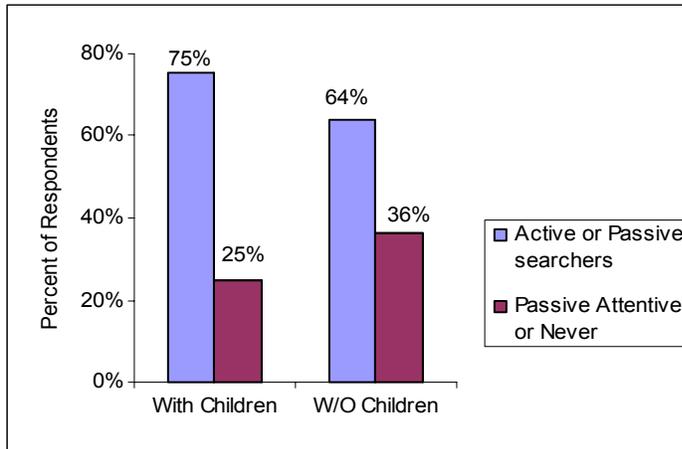
Our second question on label reading asked the respondents whether they had noticed during the previous year (2003) any labels on food regarding genetically modified organisms. Three quarters of the respondents (75%) reported that they had not seen any labels. We examined whether GE search behavior was related to having noticed GE labels before and found a fairly strong positive relationship (significance < 0.001, Gamma value = 0.470.) The more attention a person paid to information on genetic engineering, the more likely he or she was of having noticed a label in the past.

We then investigated whether the types of information searchers may have been influenced by demographic characteristics. We looked at the data to see if information search behavior appeared to be related to the age of the respondent. Our analysis revealed that people who never encountered information on genetic engineering were, on average, 13 years older than active searchers, 14 years older than passive searchers, and 12 years older than passive attentive people (significance = 0.001).

Our data also suggested a relationship between the type of information searcher and time spent in Vermont by the respondent (significance = 0.001). Individuals who never encountered information on genetic engineering had spent, on average, 17 more years in the state than active searchers, 18 more years than passive searchers, and 14 more years than passive attentive people (significance = 0.10).

Further, our results indicated relationships between the type of information searcher and education and family type, respectively. Seventy-four percent (74%) of the respondents with a Bachelor's degree or higher reported paying attention to or actively seeking information on genetic engineering, compared to 61.5% of the respondents with less than a Bachelor's degree (significance = 0.008). Three quarters (75%) of the respondents with children under 18 years of age claimed that they pay attention to or actively seek information on genetic engineering, compared to 64% of the other respondents (significance = 0.018) (Figure 2).

**Figure 2: Relationship between type of information searcher and family type (n=406, significance = 0.018)**

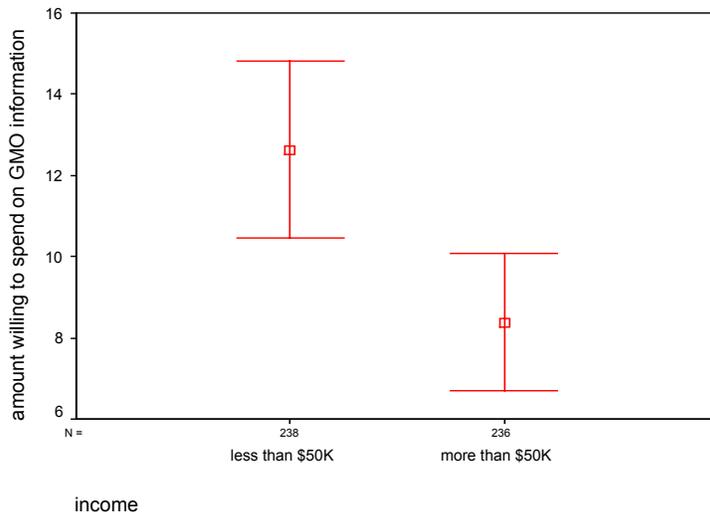


Source: Center for Rural Studies, UVM, 2004 Vermonter Poll.

### *Willingness to Pay for GMO Labels*

Next, we asked our respondents to assume that the state of Vermont had adopted statewide labeling guidelines for GMOs. We asked the respondents how many cents they would be willing to pay to have GMO information added to a product worth \$1. The responses ranged from 0 to 103 cents, and had an average value of 10.2 cents. There appeared to be a relationship between the amount the respondent was willing to pay and the respondent's annual income (significance = 0.011). The average amount willing to be spent by the people who earned \$50,000 or less was 4.2 cents more than that of the people who earned more than \$50,000 (Figure 3).

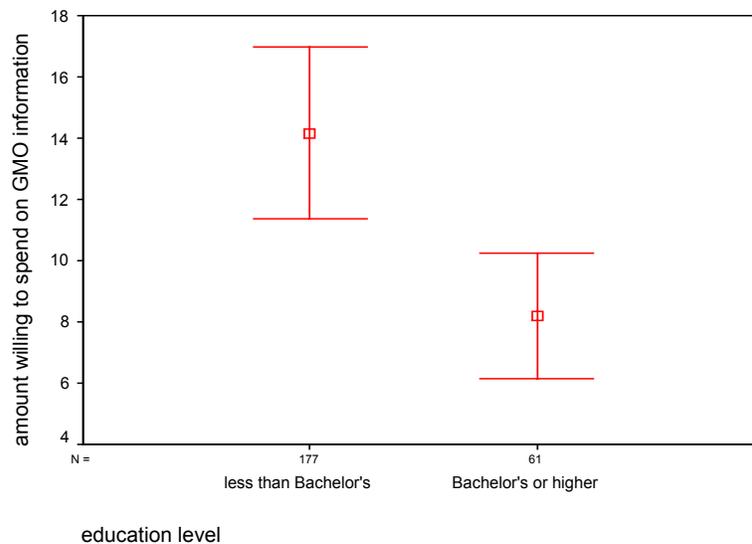
**Figure 3: Amount willing to spend on GMO info and income (n=474, significance= 0.011)**



Source: Center for Rural Studies, UVM, 2004 Vermonter Poll.

When we examined the data for a relationship between the amount willing to spend on information and education level, we found that those with less education were willing to spend more on information. Those without a Bachelor's degree were willing, on average, to spend 4.8 cents more for the information than those with a Bachelor's degree or higher (significance = 0.002). When we controlled for income, we found that there may be a relationship between the amount respondents were willing to spend on information and their education level only for those who earned \$50,000 or less (Figure 4).

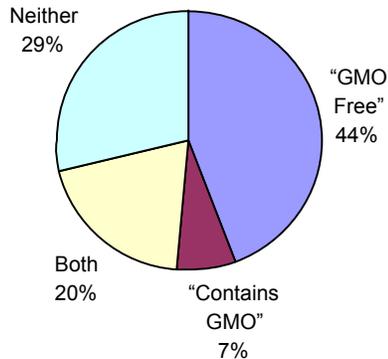
**Figure 4: Relationship between the amount willing to spend on GMO info and education for those earning \$50,000 or less (n=238, significance = 0.005)**



Source: Center for Rural Studies, UVM, 2004 Vermonter Poll

Next, we asked our respondents whether they would be willing to pay more for food products that were labeled "GMO Free", food products that were labeled "Contains GMOs", both, or neither. Forty-four percent (44%) of people reported that they would be willing to spend more for "GMO free" labels, but 29% reported that they would not be willing to pay more for either label. Twenty percent of respondents said they were willing to pay more for both kinds of labels, while just 7% said they would only pay more for products labeled "Contains GMOs" (Figure 5).

**Figure 5: Willingness to Pay More for Products with Specific Labels (n=584)**



Source: Center for Rural Studies, UVM, 2004 Vermonter Poll

Lastly, when asked about labeling genetically modified seed for farmers, 79% of our respondents expressed support ("very supportive" or "supportive"). Vermonters with a bachelor's degree or higher were somewhat more likely to support seed labeling than those with less education (significance = 0.006). Supporters of GE seed labeling had spent, on average, 4 fewer years in Vermont than other respondents (significance = 0.035). Due to Vermonters' high level of support for GE seed labeling, Vermont recently became the first state to require the labeling and tracking of genetically engineered seeds or plant parts sold in the state (Barre Montpelier Times-Argus, 2004).

## Conclusions

This analysis allowed us to draw the following conclusions:

*A majority of Vermonters reported that they paid attention to information on GE if it caught their attention.* We found that those who had never seen or heard information on GE were, on average, more than ten years older than the rest of the sample, and they had spent, on average, more than 15 years in Vermont than the others. A greater proportion of people with children in their families reported actively seeking or paying attention to information compared to those without children. Vermonters with a bachelor's degree or higher also were more likely to report seeking out or paying attention to GE information.

*There was a strong positive relationship between the type of information searcher and noticing GE labels in the past.* The more attention a person paid to information on genetic engineering, the more likely he or she was of having noticed a label in the past.

*A majority of Vermonters would be willing to pay more for a product if its label contained information on genetic engineering.* The average amount Vermonters would be willing to spend for the information was 10 cents. Those with an annual income of over \$50,000 were willing, on average, to pay 4 cents less than the rest. Among those whose annual income was less than \$50,000, those with a bachelor's degree or higher were willing, on average to pay 4 cents less than those without a bachelor's degree. While 28% of our respondents were not willing to pay more for any type of GE labeling, 44% were willing to pay more for products labeled "GMO free."

*The great majority of Vermonters were supportive or very supportive of labeling genetically engineered seeds for farmers.* More than three quarters of our respondents supported the labeling of GE seeds. The recent passage of legislation to require the labeling of GE seeds in the state of Vermont reflected this interest for GE information on labels.

**Authors:** Emilian Geczi, Amy S. Hoskins, Jane Kolodinsky

*For more information about this report, contact:*

Jane Kolodinsky, PhD  
Co-Director, Center for Rural Studies, University of Vermont  
jkolodin@uvm.edu, 802-656-4616.

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