CONSUMER ATTITUDES ABOUT GENE EDITING

FARM FOUNDATION FORUM
MARCH 10, 2020

PRESS CLUB - WASHINGTON, D.C.
FMI Foundation Mission

Established in 1996, the FMI Foundation seeks to ensure continued quality and efficiency in the food retailing system and is operated for charitable, educational and scientific purposes.

To help support the role of food retailing, the FMI Foundation focuses on research, education and resources in the area of health and well-being, which includes food safety, nutrition and social responsibility considerations.
FMI Foundation
UNIFIED VOICE PROTOCOL

1. Issue Identification & Prioritization
2. Establish Issue Coalitions /Project Collaborators
3. Data Analysis and Research
4. Outreach and Education
A bit of context; the cultural backdrop of our times

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12,000 years ago</td>
<td>Neolithic Revolution: Farm goods</td>
</tr>
<tr>
<td>mid 1700’s</td>
<td>Industrial Revolution: Products mass produced</td>
</tr>
<tr>
<td>Late 1950’s - transistors, computers and internet</td>
<td>Digital Revolution: transfer of information</td>
</tr>
</tbody>
</table>
The relevant food marketplace

... doesn’t just provide food,

it also provides information about food,

facilitating the connection consumers want with their food.
45 years and counting!
The traditional consumer food equation had three factors:

- How much does this **COST?**
- Is it **CONVENIENT?**
- How does it **TASTE?**
Today, the equation is more complex

- How much does this COST?
- How does it TASTE?
- Was the ANIMAL TREATED HUMANELY?
- GMO free?
- ENVIRONMENTALLY SENSITIVE?
- ETHNIC?
- Was the WORKER treated fairly?
- ORGANIC?
- MINIMALLY PROCESSED?
- SAFE in the long term?
- PRODUCED LOCALLY?
- CONVENIENT?
- Was the ANIMAL TREATED HUMANELY?
- ETHICALLY SOURCED?
- HEALTHY?

www.fmi.org
Comparing the two equations

The Traditional:

\[ \$ + \text{EZ} + \text{Taste} = \text{Sale} \]

The New, Evolving:

\[ \$(\times \text{local}) + \text{EZ}^{\text{Sustainable}} \div \frac{1}{5} [\frac{\text{pay}}{\text{safety}}] - \text{GMO}^3 \times \text{taste} \]

\[ + \text{ethically sourced} \div \sqrt{\text{organic}} \times \text{H&W} + [\frac{\text{food}}{\text{safety}}] = \text{Sale} \]
MOST SHOPPERS TRY TO AVOID NEGATIVES AND HIGHLY PROCESSED PRODUCTS

<table>
<thead>
<tr>
<th>Product Claim</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low sugar</td>
<td>34%</td>
</tr>
<tr>
<td>Low sodium</td>
<td>33%</td>
</tr>
<tr>
<td>No added hormones</td>
<td>27%</td>
</tr>
<tr>
<td>Antibiotic-free</td>
<td>25%</td>
</tr>
<tr>
<td>Low calorie</td>
<td>23%</td>
</tr>
<tr>
<td>No/Low fat</td>
<td>23%</td>
</tr>
<tr>
<td>Low carb</td>
<td>20%</td>
</tr>
<tr>
<td>No allergens</td>
<td>9%</td>
</tr>
<tr>
<td>No artificial ingredients</td>
<td>33%</td>
</tr>
<tr>
<td>No preservatives</td>
<td>32%</td>
</tr>
<tr>
<td>Not bioengineered</td>
<td>27%</td>
</tr>
<tr>
<td>No trans fats</td>
<td>27%</td>
</tr>
<tr>
<td>Natural</td>
<td>25%</td>
</tr>
<tr>
<td>No HFCS</td>
<td>23%</td>
</tr>
<tr>
<td>Certified organic</td>
<td>19%</td>
</tr>
<tr>
<td>Gluten-free</td>
<td>11%</td>
</tr>
<tr>
<td>Whole grain</td>
<td>28%</td>
</tr>
<tr>
<td>High fiber</td>
<td>27%</td>
</tr>
<tr>
<td>Free-range</td>
<td>16%</td>
</tr>
<tr>
<td>Grass-fed</td>
<td>16%</td>
</tr>
<tr>
<td>Cage-free</td>
<td>16%</td>
</tr>
<tr>
<td>Fair trade</td>
<td>16%</td>
</tr>
<tr>
<td>Certified humane</td>
<td>13%</td>
</tr>
<tr>
<td>Vitamin-enriched</td>
<td>12%</td>
</tr>
<tr>
<td>Antioxident-rich</td>
<td>12%</td>
</tr>
<tr>
<td>Calcium-fortified</td>
<td>10%</td>
</tr>
<tr>
<td>Low(ers) cholesterol</td>
<td>16%</td>
</tr>
<tr>
<td>Heart healthy</td>
<td>15%</td>
</tr>
</tbody>
</table>
IN-STORE EXPERIENCE AND CONVENIENCE ALSO IMPORTANT FEATURES

MOST IMPORTANT ATTRIBUTES IN PRIMARY STORE

- High-quality fruits and vegetables: 78%
- High-quality meat: 76%
- Low prices: 76%
- Clean, neat store: 75%
- Great product selection and variety: 75%
- ACCURATE information displayed: 70% (+6)
- Items on sale or money-saving specials: 67%
- CONVENIENT from home: 63%
- COURTEOUS, friendly employees: 60% (+10)
- Store/site layout that makes it EASY TO SHOP: 59%
- Security of purchase history & personal info: 56% (-6)
- FAST CHECKOUT: 56% (+6)
- CONVENIENT from work or along daily commute: 50% (+17)
- FRESH FOOD deli or delicatessen: 49%
- OPEN AND HONEST about business practices: 46%
- KNOWLEDGEABLE employees: 43% (-6)
- Nutrition and health information available: 35%
- Locally grown products: 33%
- Private label or store brands: 32%
- Customer service that feels personalized: 32%
- Attention to special requests or needs: 31%
- Good selection of all natural/organic products: 29%
- Easy, grab & go fresh prepared foods: 27%
- Exciting environment to browse ideas/products: 27%
- Provides information beyond the package: 26%
- Self-checkout: 25%
- Recycling / sustainability practices: 24%
- Good selection of ethnic or cultural foods: 23%
- Community involvement: 20%
- Pharmacy: 17%
- Checkout/Pay via smartphone: 14%
- Online ordering for pickup: 12%
- Online ordering for delivery: 12%

*SIGNIFICANTLY HIGHER AMONG BOOMERS/MATURE
*SIGNIFICANTLY HIGHER AMONG GEN Z/MILLENNIALS*
THE MEANING OF ‘EATING WELL’ CONTINUES TO ENCOMPASS MULTIPLE FACTORS

OVER THE COURSE OF THE WEEK, I FEEL I’VE EATEN WELL WHEN...

- I ate nutritious food and beverages: 76% (76% ±5pts)
- I ate high-quality foods and beverages: 72% (72% ±5pts)
- I ate in moderation: 72% (72% ±5pts)
- I ate foods and beverages with specific benefits for my body: 61% (61% ±5pts)
- I ate foods and beverages that are good for me in a holistic way (whole, organic, natural, local foods): 48% (48% ±5pts)
- I ate tasty foods and beverages: 84% (84% ±5pts)
- I ate hearty and filling meals: 70% (70% ±5pts)
- I ate with my family and/or friends: 60% (60% ±5pts)
- I ate whatever I wanted: 44% (44% ±5pts)
- I ate in the company of others: 42% (42% ±5pts)
- I explored a diversity of preparation methods and tastes: 39% (39% ±5pts)
- I ate unique foods and beverages: 34% (34% ±5pts)
- I dined out: 31% (31% ±5pts)
- I ate foods and beverages that are produced in an ethical way: 42% (42% ±5pts)
- I ate foods and beverages that are produced in an environmentally sustainable way: 41% (41% ±5pts)
- I ate within my budget: 73% (73% ±5pts)

Significantly higher among men/women
+/− Statistically significant change from 2018
GMO’s rocky road

Background
1982: FDA approves first GMO
1994: Flavr Savr tomato hits grocery shelves
1999: GMO crops flourish
2007: Non GMO Project created

November: California’s GMO labeling measure, Prop 37, narrowly defeated
January: Maine passes GMO labeling law; contiguous state trigger
May: Vermont GMO labeling law; no caveats
June: Connecticut passes GMO labeling law, with contiguous state implementation trigger
February: Vermont law upheld in federal court
March: Sen Robert’s voluntary national food labels standards bill fails
July: Roberts/Stabenow compromise GMO labeling bill passes Senate & House. President signs on the 29th

December 21: National Bioengineered Food Disclosure Standard final rule published in Federal Register

January: Required compliance date
Gene Editing – Vocabulary Challenges

- Scientifically complicated topic
- Shopper skepticism of science vernacular, especially regarding food.
- Gene editing’s current benefits tend to require some explanation
- While different processes, USDA’s recent labeling vocabulary shift from GMO to Bioengineering (BE) will add to confusion
- General lack of industry cohesion around definition/description of gene editing.
Gene Editing – Additional Barriers

• Guilt by association with GMO (BE)
• Unclear regulatory future
• Powerful tool with many positive potential applications, but with great power comes ....
• Opponents are quick to raise potential negative applications:
  o fear of unintended consequences, off targets
  o morally suspect uses (designer babies)
  o skepticism - is it “natural”
  o Hollywood
Food retailers (and the public) rely on the U.S. Government food regulatory agencies to help keep our food safe.

- We ask the agencies to be pro-active in promoting the safety and value of gene editing technology
- Establish a standard vocabulary
- Support a public facing educational campaign
FMI/FMI Foundation
Gene Editing White Paper

• Why is gene editing being used?
• What is gene editing?
• Regulation
• Medicine and ethics
• What do advocacy groups say?
• Are consumers tuned in?
• Glossary of Biotechnology Terminology
Parting thoughts on the need for reliable science-based information that is relatable

“We’ve arranged a society based on science and technology in which nobody understands anything about science and technology, and this combustible mixture of ignorance and power sooner or later is going to blow up in our faces.

I mean who is running the science and technology in a democracy if the people don’t know anything about it?”

Carl Sagan
Thank you,
...for being here and for listening.

David Fikes
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