Introduction

This 20th annual nationwide survey provides vital information on consumer attitudes and perceptions about health and nutrition issues. Sponsored by the United Soybean Board (USB), this report takes an in-depth look at:

- Nutrition attitudes and their effect on purchasing decisions
- Nutritional habits and obesity concerns
- Consumer awareness of the health benefits of soy products
- Attitudes about different types of fat and oils
- Restaurant and home consumption of soy
- Consumer perceptions of biotechnology and sustainability

Methodology

The United Soybean Board conducted the first Consumer Attitudes about Nutrition study in 1994. Over the years, this annual survey has become more detailed to address current topics of interest to the food industry as well as health professionals. As such, we have provided multiple years of trending data, where available.

The study, conducted by an independent research firm in February 2013, includes 1,000 random surveys, providing a sample that is consistent with the total U.S. population. The study’s margin of error remains +/- 1.9-3.1 percent, with a confidence interval of 95 percent.

We recommend that the reader view the data for general trending purposes over years of research rather than for specific market shifts.
About USB

The United Soybean Board serves as a resource for soybean-related educational materials. Please visit SoyConnection.com to view soybean oil innovation news (including information about biotechnology), up-to-date health research, recipes and two Soy Connection newsletters for the food industry and for health professionals.

Food industry professionals can utilize this study when making formulation, purchasing and marketing decisions.

In 2013, 73 percent of consumers say they have changed their eating habits due to health and nutrition concerns.
Consumers Aim to Choose Healthier Foods

Americans continue to report that they are trying to choose foods that maximize nutrition and health. In 2013, 86 percent express concern about the nutritional content of the food they eat, a number that has remained consistent over the last decade. Seven out of 10 consumers say they have changed their eating habits in the past three to five years due to health concerns, consistent with previous years.

More than 9 out of every 10 U.S. consumers (92 percent) find health and nutrition information important when searching for healthy foods. Ninety percent review the Nutrition Facts panel when deciding which foods to purchase, although 46 percent feel information about health and nutrition is too confusing.

Effective Strategies for Improving Overall Health

- Following a moderate-fat diet, but choosing “good” fats over “bad” fats: 48%
- Following a low-fat diet by reducing all fats: 31%
- Both equally effective: 8%
- Don’t know: 9%

A new question in 2013 revealed that consumers are paying the most attention to nutrition trends surrounding fat content.

Six in 10 Americans (61 percent) believe soy-based foods can play a role in reducing obesity.
Consumers Examine the Good and Bad of Nutrition Facts

Consumers who consider the Nutrition Facts panel to be important most often mention total calories as their top concern (14 percent, on an unaided basis), on par with 2012. Consumers continue to show concern with sodium content (12 percent) as well as total fat (10 percent), which saw a slight increase in 2013. Calories and fat have remained the top concerns since 2007. Other items noticed most often on the Nutrition Facts panel were: sugar, carbohydrates and ingredients/preservatives at 9, 8, and 7 percent, respectively.

Willingness to Pay More for Healthier Foods

Reasons for Not Being Willing to Pay More for Healthier Foods in 2012

Who is to Blame for Obesity?

Respondents consider individual responsibility and poor diet to be the top two causes of obesity (56 and 48 percent, respectively) on an unaided basis.

When at the grocery store, 90 percent of consumers consult the Nutrition Facts panel.
Percent Awareness of Soy as Healthy by Year

SoyfoodsReceive Healthy Rating

In 2013, three-quarters of consumers (75 percent) rate soy products as healthy on an aided basis, with very few rating them as unhealthy (only 7 percent). This number reflects an increase of 8 percentage points in the perceived healthiness of soy products over the last 15 years.

FDA-Approved Heart Health Claim

Nearly 4 in 10 consumers aware of the health benefits of soy indicate they are also aware of the FDA-approved health claim, which states that consuming 25 grams of soy protein per day may reduce the risk of coronary heart disease.
Consumers most often associate the following health benefits with soy:

- Source of protein
- Low in fat
- Dairy alternative
- Fiber
- Heart-healthy

Health Reasons for Seeking Soy

Forty-seven percent of consumers seek out products specifically because they contain soy, and approximately 26 percent are aware of specific health benefits of soy in their diet. On an unaided basis, consumers most frequently mention the following specific health benefits of soy: It’s good for you (18 percent, up from 14 percent in 2012), source of protein (16 percent), low in fat (14 percent), heart healthy (12 percent), good for women (11 percent) and cholesterol lowering (10 percent).

On an aided basis, consumers are most aware of the health benefits of soy in relation to weight management (31 percent), reduced risk of heart disease (31 percent) and reduced risk of some cancers (22 percent).

Spotlight on Protein

Emerging research points to high-protein diets containing soy for decreasing appetite and providing a feeling of fullness.

Information Sources about Soy and Health

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Web/Internet</td>
<td>45%</td>
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<tr>
<td>TV News</td>
<td>45%</td>
</tr>
<tr>
<td>Family &amp; Friends</td>
<td>34%</td>
</tr>
<tr>
<td>Magazines</td>
<td>29%</td>
</tr>
<tr>
<td>Newspaper</td>
<td>23%</td>
</tr>
<tr>
<td>Dietician/Doctor</td>
<td>20%</td>
</tr>
<tr>
<td>Social Media</td>
<td>14%</td>
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<tr>
<td>Radio</td>
<td>10%</td>
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</tbody>
</table>

Almost half (47 percent) of U.S. consumers seek out products made with soy because of the nutrition benefits associated with soy.
Soybean Oil and Health Align

Ninety-three percent of Americans are aware of vegetable oil (usually made from soybean oil) on an aided basis. As in past years, vegetable oil is second only to olive oil in terms of the cooking oil consumers report that they use most frequently (69 percent). Olive oil saw a four point decrease while vegetable oil inched up one percentage point.

Slightly over half of consumers who use vegetable oil remain unaware of what vegetable makes up their vegetable oil, with just 10 percent listing soybeans. When given the information that most cooking oil labeled “vegetable oil” is actually 100 percent soybean oil, 4 in 10 consumers say vegetable oil is healthier than they thought. If vegetable oil was re-labeled to say 100 percent soybean oil, about one-third of consumers say they would be more likely to buy it, on par with 2012 results.

When it comes to oil consumption in restaurants, 62 percent of consumers are interested in the type of oils being used in food preparation. And over half of consumers say they would be more likely to eat at restaurants using oils with lower saturated and trans fat content.

Among consumers with an opinion on healthiness, 78 percent think soybean oil is very or somewhat healthy.
Vitamin E is a fat-soluble antioxidant vitamin that prevents cell damage that may lead to diseases such as cancer and heart disease. Soybean oil is the principal commercial source of vitamin E in the U.S. diet.

1. Soybean oil is commonly marketed as vegetable oil.
2. Most "vegetable oil" is actually soybean oil.
3. Soybean oil is one of the few non-fish sources of omega-3s, and is the principle source in the U.S. diet.
Consumers Recognize Role of Good Fats in Overall Health

Many consumers distinguish between the health effects of different types of fat. Nearly half (48 percent) believe the most effective strategy for improving overall health is to follow a moderate fat diet, which chooses “good” fats over “bad” fats, rather than to adopt an overall low-fat diet by reducing all fat intake (10 percent).

How Do Fats Rate?

Despite an interest in choosing “good” fats over “bad” fats, most U.S. consumers have a hard time pinpointing healthier choices. Only 33 percent of Americans recognize polyunsaturated fats as healthy, and 31 percent recognize monounsaturated fats accordingly. While these numbers are still low, there was a slight increase in awareness in 2013.

Heart-healthy omega-3 fatty acids remain the only type of fat that consumers rate more healthy than unhealthy. In 2013, 77 percent of Americans consider omega-3 fatty acids very or somewhat healthy. While fish oil is the preferred source of omega-3s due to bioavailability, soybean oil is the principal source of omega-3s in the American diet.

Interesting Facts:

Consumers say they depend on soybean oil as one of their two most frequent cooking oils.

Produced during the hydrogenation process to make a more stable, solid fat for food products, trans fats elevate ‘bad’ LDL cholesterol and lead to increased risk for heart disease.

Poly- and monounsaturated fats are found in soybean oil, and when they replace saturated fats, it lowers both total and ‘bad’ LDL cholesterol.

Saturated fats tend to raise LDL cholesterol, and therefore increase the risk of heart disease, certain cancers and strokes.

In the coming years, enhanced soybean oil varieties, with high oleic, low-saturate and increased omega-3 traits will be available to food companies for better-for-you product formulation.

Confusion Continues Between Saturated and Trans Fats

In a direct comparison between harmful types of fats, consumers continue to say that saturated fat is healthier than trans fat (22 percent vs. 17 percent, respectively in 2013). This has been the trend since 2006 (the year local municipalities such as New York City began to enact restrictions on trans fat), before which trans fat was considered by consumers to be the healthier of the two choices.

Not surprisingly, saturated fat enjoyed its highest levels of perceived healthiness as compared to trans fat in 2007 (42 percent vs. 16 percent), but the gulf in perception has since narrowed significantly in the last six years. In fact, now about one-third of consumers consider these fats to be nutritionally about equal. These results suggest a need for food companies to develop products low in both trans and saturated fats.

Yet, even if consumers are starting to recognize the unhealthiness of both trans and saturated fats, fewer consumers recall recent media coverage of saturated fats as compared to trans fat. Among those who do, they recall that it’s the “worst kind” of fat (which is also what consumers recall most about trans fat).
Trans Fat Awareness and Opinion

Sixty-one percent of Americans view trans fat as very unhealthy, a decrease from 2012, at 68 percent. Looking at the long-term trend, this continues to represent a dramatic increase from 2000, when only 28 percent viewed trans fat as very unhealthy.

The percentage of Americans who say they are very unlikely to purchase foods with trans fat listed on the Nutrition Facts panel decreased slightly to 33 percent in 2013 (down from 37 percent in 2012 and 41 percent in 2011). Of those consumers who pay attention to trans fat on the Nutritional Facts panel, 52 percent do so because they consider trans fat to be “bad for you.” This is an increase from 42 percent in 2012.

Perceived Healthiness of Saturated Fat vs. Trans Fat

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturated fat</td>
<td>35%</td>
<td>37%</td>
<td>21%</td>
<td>20%</td>
<td><strong>22%</strong></td>
</tr>
<tr>
<td>healthier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trans fat</td>
<td>19%</td>
<td>19%</td>
<td>10%</td>
<td>15%</td>
<td><strong>17%</strong></td>
</tr>
<tr>
<td>healthier</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutritionally</td>
<td>NA</td>
<td>NA</td>
<td>35%</td>
<td>36%</td>
<td><strong>33%</strong></td>
</tr>
<tr>
<td>about equal</td>
<td></td>
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Fats Consumers View as Very or Somewhat Healthy

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omega-3 fatty acids</td>
<td>75%</td>
<td>76%</td>
<td><strong>79%</strong></td>
</tr>
<tr>
<td>Polyunsaturated fat</td>
<td>29%</td>
<td>32%</td>
<td><strong>33%</strong></td>
</tr>
<tr>
<td>Monounsaturated fat</td>
<td>32%</td>
<td>30%</td>
<td><strong>33%</strong></td>
</tr>
<tr>
<td>Hydrogenated vegetable oils</td>
<td>32%</td>
<td>30%</td>
<td><strong>33%</strong></td>
</tr>
<tr>
<td>Trans fat</td>
<td>9%</td>
<td>10%</td>
<td><strong>9%</strong></td>
</tr>
<tr>
<td>Saturated fat</td>
<td>7%</td>
<td>9%</td>
<td><strong>8%</strong></td>
</tr>
</tbody>
</table>

These results suggest a need for food companies to develop products low in both trans and saturated fats.

One-third of consumers consider trans and saturated fats to be nutritionally about equal.

19 percent of consumers choose not to eat any foods with trans fat.
More Consumers Eat and Drink Soy

Forty-two percent of Americans consume soyfoods or soy beverages once a month or more, compared to 30 percent back in 2006. The gain appears to be from those who consume soy once a week or more (19 percent in 2006 to 28 percent in 2013). Conversely, 27 percent indicate that they never consume soy, which has decreased steadily since 2006 (then at 43 percent). For the 10th year in a row, consumers report highest awareness of soymilk and tofu, followed by soybean oil, soybeans and dried/canned soybeans, on an unaided basis.

Soymilk continues to be the most regularly consumed soy product, with nearly one-quarter of Americans reporting that they drink it regularly. For comparison, in 1999, 18 percent of consumers reported that they had tried soymilk. In 2013, the number of consumers who have tried soymilk has more than doubled to 49 percent of all consumers.

Edamame holds the number two spot ahead of veggie burgers among the top three most consumed soyfoods for the past three years. Plain white tofu follows in fourth place.

Consumers Seek Soy at Restaurants

Among Americans who order soy in restaurants, soymilk is the most common choice at 27 percent. After soymilk, soy veggie burgers (20 percent), soy latte (13 percent), tofu (11 percent) and edamame (9 percent) are most popular.

Nearly 3 in 10 consumers who consume soy products at home but rarely order them in restaurants note, as in past years, it’s because soy products are not available on the menu. This continues to represent a menu development opportunity for restaurants.

A wide range of soy products have entered the marketplace, allowing consumers more options and occasions for consuming soy.
Occasion Preferences for Consuming Soy

Dinner remains the most popular meal time for consuming soy products (38 percent). Other respondents cite their favorite occasion for eating soy as breakfast (32 percent), lunch (27 percent, up from 21 percent in 2012), mid-afternoon snacking (16 percent), late evening snacking (10 percent), mid-morning snacking (10 percent) and desserts (4 percent). Lunchtime saw a six point increase over 2012 data.

Types of Soy Products Ordered

<table>
<thead>
<tr>
<th>Product</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Soy milk</td>
<td>27%</td>
</tr>
<tr>
<td>Soy veggie burger</td>
<td>20%</td>
</tr>
<tr>
<td>Soy latte</td>
<td>13%</td>
</tr>
<tr>
<td>Tofu (unspecified)</td>
<td>11%</td>
</tr>
<tr>
<td>Edamame</td>
<td>9%</td>
</tr>
<tr>
<td>Chinese/Asian food</td>
<td>5%</td>
</tr>
<tr>
<td>Soybeans</td>
<td>5%</td>
</tr>
<tr>
<td>Miso</td>
<td>4%</td>
</tr>
<tr>
<td>Tofu (prepared)</td>
<td>3%</td>
</tr>
<tr>
<td>Meat substitute</td>
<td>3%</td>
</tr>
<tr>
<td>Smoothies/Shakes</td>
<td>2%</td>
</tr>
<tr>
<td>Tempeh</td>
<td>2%</td>
</tr>
<tr>
<td>Soy sauce</td>
<td>2%</td>
</tr>
<tr>
<td>Soy ice cream/cheese</td>
<td>1%</td>
</tr>
</tbody>
</table>

The types of soy products ordered in restaurants fluctuates year-to-year, but soy milk and soy veggie burgers remain the most popular.

1. Soymilk continues to be the most regularly consumed soy product.
2. Nearly 1/4 of Americans drink soymilk regularly.
3. 49 percent of consumers have tried soymilk.
New biotech soybean varieties will provide trans fat solutions in food production formulation, as well as reduced saturated fat and increased omega-3s for heart health.
Most consumers are neutral (28 percent) or likely (32 percent) to purchase a product they normally buy if new labeling shows it may contain biotech ingredients.

Sustainability Is Important

Of those consumers who are familiar with the term biotechnology, over three-quarters say it is important that the food they eat is produced using sustainable methods.

However, of those concerned about food and sustainability, 3 in 10 say they don’t do anything specific to address their concerns. Among those who take action, reading labels (18 percent), buying organic (11 percent) and eating healthier (10 percent) are mentioned most often. This consumer focus represents a future opportunity for the food industry to recommend specific actions consumers can take at the grocery store or at home to make sustainable food choices and support sustainable agriculture.

Nearly half of consumers report familiarity with the term sustainable farming. Consumers aware of sustainable farming associate it most strongly with helping to protect the environment (30 percent) and producing healthier food for both people (25 percent) and animals (20 percent).
The 69 farmer-directors of USB oversee the investments of the soy checkoff to maximize profit opportunities for all U.S. soybean farmers. These volunteers invest and leverage checkoff funds to increase the value of U.S. soy meal and oil, to ensure U.S. soybean farmers and their customers have the freedom and infrastructure to operate, and to meet the needs of U.S. soy’s customers. As stipulated in the federal Soybean Promotion, Research and Consumer Information Act, the USDA Agricultural Marketing Service has oversight responsibilities for USB and the soy checkoff.

For more information on the United Soybean Board, visit us at UnitedSoybean.org or SoyConnection.com.