Introduction

Food is an essential part of our lives, and consumer interest in foods and beverages that may provide benefits beyond basic nutrition, or “functional foods,” is thriving. These foods for health may consist of a variety of food components and provide additional health benefits that may reduce disease and/or promote optimal health. These can include, for example, the naturally healthful components in fruits and vegetables, whole grains and fiber in certain breads and cereals, calcium in milk, and fortified foods and beverages such as vitamin D fortified orange juice. Dietary supplements can also contain health promoting functional components. As seen in previous years, the majority of Americans believe that foods have specific health benefits and remain interested in learning more. However, understanding what motivates consumers beyond interest to action is essential to help consumers obtain the benefits of functional foods.

In 2013, the International Food Information Council (IFIC) commissioned its eighth survey studying Americans’ awareness of and attitudes toward functional foods. This survey has been conducted every two to three years since 1999. It continues to provide consumer insights into their interests and perceptions about the roles of foods and beverages in promoting health and wellness. In contrast to previous surveys, which largely explored views on food and health benefit pairings, the latest round of research was designed to investigate consumer perceptions related to nutrient inadequacy, the variety of sources of functional components including naturally occurring and fortified, food processing, and behavioral determinants of functional food consumption.

For detailed information regarding the findings of the 2013 consumer survey, see the accompanying slide deck available at www.foodinsight.org.

Methodology

IFIC commissioned Mathew Greenwald & Associates, a Washington D.C. based research firm to conduct the 2013 Functional Foods Consumer Survey, a quantitative study to measure Americans’ attitudes toward, awareness of, and interest in functional foods. Between July 9th and July 22nd, 2013, 1,005 U.S. adults ages 18 to 80 years were randomly invited to participate in a 20-minute web-based survey. The majority of the questions were close-ended where participants were prompted and asked to select from specific responses. There were two open-ended questions where participants provided unaided responses. Respondents were invited based on gender, education, age, and ethnicity to allow the findings to be reflective of the American population, and the final data set was weighted on these characteristics. The sample of 1,005 interviews is subject to a maximum sampling error of ±3.1 percentage points (at the 95% confidence level).

This research report highlights key findings from the survey and offers perspectives on trends and in-depth analysis of consumer attitudes and awareness of functional foods.

NOTE: When consumers were asked questions about “food,” it was defined as “everything people eat, including fruits, vegetables, grains, meats, dairy, as well as beverages, herbs, spices, and dietary supplements.”
Research Findings

Awareness of and Interest in Functional Foods

Similar to survey findings from 2009 and 2011, 90 percent of consumers agree that certain foods have health benefits beyond basic nutrition (87% in 2011, and 89% in 2009). This represents a significant increase compared to 85 percent in 2002. Similar to previous years, when asked an open-ended question about a food or food component that has benefits beyond basic nutrition, most consumers (89%) can name at least one functional food and its associated health benefit. Specifically, fruits and vegetables are by far the most commonly mentioned functional food. When asked to name the health benefit that the food or food component is good for, twenty-seven percent of consumers say it provides a specific nutrient or food component such as vitamins or protein. Cardiovascular and digestive health are also benefits named by consumers.

Consumer interest in learning more about functional foods remains high. Almost nine in ten Americans (86%) are interested in learning more about foods that have health benefits beyond basic nutrition. Similar to 2011, almost half of all consumers (45%) are “very interested” while another 42 percent are “somewhat interested.”

About half of consumers believe they get at least “most” of the nutrients/food components they need for good health. However, three out of four consumers report concerns that they are not getting enough. More specifically, the findings show women are more likely to be concerned about nutrient inadequacy, while older consumers are less likely to be concerned.

Consumers’ concerns regarding nutrient inadequacy tend to be general in nature, rather than a concern on a specific health condition or nutrient/component. Among the consumers who are concerned with nutrient inadequacy, only 16 percent are concerned with the inadequacy of one or more specific nutrient without regard to general nutrient inadequacy. Most consumers are concerned about general health problems resulting from nutrient inadequacy, rather than one specific health problem.

For nearly all of the nutrients or food components examined, at least six in ten consumers believe they get enough to meet their needs (see Figure 1). Omega-3 fatty acids are the exception as only 50 percent of consumers believe they get enough Omega-3s to meet their needs.

![Figure 1. Consumer Perceptions of Specific Nutrient Adequacy in Diet](image)

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Enough to get a health benefit beyond my minimum needs</th>
<th>Just enough to meet my needs</th>
<th>Some, but not enough to meet my needs</th>
<th>None</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein</td>
<td>45%</td>
<td>33%</td>
<td>13%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Vitamin C</td>
<td>39%</td>
<td>34%</td>
<td>17%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Vitamin D</td>
<td>34%</td>
<td>34%</td>
<td>21%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Calcium</td>
<td>32%</td>
<td>38%</td>
<td>21%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Fiber</td>
<td>32%</td>
<td>35%</td>
<td>24%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>B Vitamins</td>
<td>26%</td>
<td>33%</td>
<td>22%</td>
<td>17%</td>
<td></td>
</tr>
<tr>
<td>Potassium</td>
<td>24%</td>
<td>37%</td>
<td>22%</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Omega-3 fatty acids</td>
<td>21%</td>
<td>29%</td>
<td>27%</td>
<td>4%</td>
<td>19%</td>
</tr>
</tbody>
</table>
Attitudes and Perceptions of Functional Foods

Overall, nearly two-thirds of consumers believe that functional foods will provide health benefits (63%) and have confidence they could make the necessary changes to integrate functional foods into their diet (62%).

Breakfast is the preferred meal or snack time when consumers most often choose to include a functional food, with 52 percent of consumers listing breakfast as their first choice among other meal and snack time options. In regards to specific sub-populations who may benefit from functional food consumption, consumers think of infants and toddlers as the age group that would most benefit, followed by children (ages 4 to 12), and people age 60 or older.

Perception of vitamin and supplement use is generally positive among consumers. The majority of consumers (68%) like the idea of getting health promoting nutrients and food components from vitamins or supplements, while only 12 percent of consumers dislike the idea. Twenty percent are unsure or neutral about the idea. Consumers who eat foods with added nutrients or healthful food components are more likely to be favorable towards the idea of getting health promoting components from vitamins or supplements.

Views Toward Fortification

Consumer views on fortification were also investigated. Half of consumers (54%) believe fortification has little to no impact on taste, while 28 percent say they do not know if fortification affects taste. A slight majority (53%) of consumers believe fortified foods are “most always” or “always” more worthwhile to eat than non-fortified foods. (see Figure 2) Consumers who are “very concerned” about nutrient inadequacy are more likely to rate fortified foods as “most always” or “always” more worthwhile to eat than non-fortified foods.

In this survey, consumers were more receptive to fortified products if the fortification were to come from a whole food rather than a synthetic ingredient. Fortification with a whole food such as soy beans or cocoa beans made 40-50 percent of consumers more likely to buy a snack bar. In comparison, fortifying with a synthetic component, such as one made to be similar to a cocoa natural extract, made consumers much less likely to buy a snack bar.

When it comes to interest in foods with fortified or naturally-occurring benefits, consumers tend to prefer the latter, although nearly half do not report a preference. Fifty-one percent of consumers prefer the idea of getting health promoting ingredients from foods with naturally occurring health benefits, while only three percent prefer the idea of getting them from fortified foods. However, nearly half of consumers (46%) do not have a preference.

Interestingly, when asked about their children or parents/seniors getting health promoting ingredients from fortified foods vs. foods with naturally occurring benefits, consumers are more likely to be open to the fortified option. Thirty-three percent of consumers “like strongly” the idea of their children getting health promoting ingredients from fortified foods and 35 percent of consumers “like strongly” the idea of their parents/seniors getting health promoting ingredients from fortified foods. This is in contrast to the smaller proportion of consumers (21%) who “like strongly” the idea of getting health promoting components from fortified foods for themselves.

Figure 2. Perceived Worthwhile of Consuming Fortified Foods vs. Non-Fortified Foods

- Always more worthwhile than eating non-fortified foods: 11%
- Most often more worthwhile: 42%
- Most often the same: 22%
- Most often less worthwhile: 6%
- Always less worthwhile than eating non-fortified foods: 3%
- Don’t know: 17%
Views Toward Processed Foods

Most consumers agree that processed foods are more convenient (71%) and last longer (72%) than similar foods that are not processed. However, very few consumers believe that processed foods are safer or more nutritious than foods that are not processed. Americans who frequently consume foods with added nutrients/food components are more likely to agree that processed foods are generally safer and more nutritious.

When consumers were asked to identify the degree to which they considered a variety of foods to be a “processed food”, it was clear they recognize that even minimally processed foods, such as a bag of baby carrots, is still a “processed food.” Interestingly, homemade apple pie is more often considered less processed than packaged apple slices.

Adding preservatives or artificial flavors are actions that consumers most strongly associate with the term “processed foods” (over 50 percent of consumers believe these food modifications qualify the food as “highly processed”, see Figure 3). However, adding nutrients to a food is viewed on the same level of processing as canning, pasteurization, or mixing/cooking with other foods. Interestingly, between 27 and 29 percent of consumers believe that these modifications qualify a food as “highly processed”.

![Figure 3. Perceived Degree of Processing Based on Food Modifications](image)
**Behavioral Determinants of Functional Food Consumption**

Over half of consumers say they consume foods that naturally contain healthful nutrients/food components “most times” they eat. In contrast, only one in five consumers report eating foods with added nutrients or components “most times” they eat.

While the majority of U.S. consumers (79%) remain confident they are at least “somewhat knowledgeable” about nutrition, less than half (48%) agree they have enough information to understand which foods provide an added benefit.

Consumers with a high “receptivity” to functional foods are more likely to consume functional foods frequently. “Receptivity” to functional foods was determined based on a composite measure of consumers’ knowledge, skills, self-efficacy, perceived benefits and outcome expectations related to functional foods. Receptivity was predictive of consumption frequency of both foods that naturally contain functional components as well as fortified foods.

**Barriers to Functional Food Consumption**

Consumers cited a variety of barriers to more frequent consumption of health promoting foods and food components. (See Figure 4) Cost is the most common barrier, with over half of consumers (55%) identifying this as a major reason. Other commonly identified barriers included taste and a preference for pure, basic foods. The least commonly identified barriers were food preparation and the mental effort required to consume functional foods.

### Figure 4. Common Barriers to Functional Food Consumption

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Major reason</th>
<th>Minor reason</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>These foods are sometimes more expensive</td>
<td>55%</td>
<td>32%</td>
<td>86%</td>
</tr>
<tr>
<td>You are skeptical of food manufacturers' motives for adding health components to so many products</td>
<td>34%</td>
<td>38%</td>
<td>72%</td>
</tr>
<tr>
<td>You prefer the purity of basic foods with nothing added</td>
<td>37%</td>
<td>34%</td>
<td>71%</td>
</tr>
<tr>
<td>These foods sometimes do not taste as good</td>
<td>31%</td>
<td>39%</td>
<td>70%</td>
</tr>
<tr>
<td>You are confused over conflicting information you read or hear about these foods</td>
<td>27%</td>
<td>37%</td>
<td>64%</td>
</tr>
<tr>
<td>You do not know enough about how much of these to consume for the desired health benefits</td>
<td>21%</td>
<td>42%</td>
<td>63%</td>
</tr>
<tr>
<td>You do not know enough about which foods to purchase for desired health benefits</td>
<td>23%</td>
<td>40%</td>
<td>63%</td>
</tr>
<tr>
<td>If you don't understand some aspect of a health claim that you see on a food package, you won't buy it</td>
<td>20%</td>
<td>37%</td>
<td>58%</td>
</tr>
</tbody>
</table>
Summary

Since these research studies were first initiated in 1998, there has been a significant increase in consumer awareness of foods and beverages with health promoting nutrients, and consumers continue to be interested in learning more about these beneficial foods. A majority of Americans continue to agree that certain foods can provide health benefits beyond basic nutrition.

More than half of consumers believe their diets are adequate in many specific nutrients, but a large portion of the population is still concerned about nutrient inadequacy. Those consumers with the most concern about nutrient inadequacy are more likely to think fortified foods are more worthwhile to consume than non-fortified foods.

Questions regarding consumer perception of processed foods were new to this year’s survey. Consumer response showed that processed foods are generally perceived as convenient and resistant to spoilage, but are not usually considered safer or healthier than their unprocessed counterparts.

The results of this survey also show that consumer favorability toward functional foods depends on the time of day the food is consumed and for whom they are buying the foods.

This study further explored perceived barriers that may prevent Americans from consuming more functional foods. Price is the most common factor identified, with over half of consumers rating it as a major reason. Other perceived barriers include skepticism of manufacturers motives for adding healthful components to products, preference for the purity of basic foods, and taste. Uncertainty about food preparation, getting enough healthful components from diet already, and the mental effort required to learn and determine what foods are best to eat are among the least common barriers.

Implications

There are many factors that will continue to drive the demand for functional foods both within the United States and globally. As this survey demonstrates, consumers are interested in controlling their health and they view foods and beverages as one strategy that can impact their overall health and wellbeing. Further, consumers recognize that certain sub-populations, such as children may especially benefit from functional foods. Education on nutrient needs for additional life stages may lead consumers to intentionally seek out and purchase functional foods to benefit the health of themselves, their children, and aging parents. In the case of certain sub-populations with large buying power such as baby boomers, increased knowledge of the health benefits of functional foods can result in significant purchasing and ultimately, consumption changes.

The science supporting the use of foods to reduce risk of disease and improve health will continue to evolve. As it does, consumers will remain interested in taking advantage of certain foods for a specified health benefit. Along with the science, technology will also progress to allow food scientists to become better equipped at addressing specific health needs through tailored diets, foods and beverages.

Further analysis of this data shows that consumers with a high receptivity to functional foods (who trust that functional foods will confer health benefits) are more likely to consume functional foods. Effective messages about functional foods must address the top barriers to functional food consumption and foster consumer belief in the health benefits that functional foods can confer in order to motivate consumers to achieve and maintain optimal health through diet and lifestyle modification. Health professionals and educators are therefore challenged with bridging the knowledge-behavior gap, but are simultaneously well positioned to help bring knowledge and behavior together on the functional foods plate.

For more information:

For an electronic copy of this report and topline data, please visit the International Food Information Council Foundation Web site at: www.foodinsight.org

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