

awareness

81%
view soy as
healthy

Soy veggie
burgers popular
in restaurants

TRANS
FATS



improving

tofu

health benefits

67%
view soybean oil
as one of the
healthiest oils

oil

18th Annual

CONSUMER ATTITUDES about Nutrition

insights into nutrition, health and soyfoods

2011 Edition • United Soybean Board

56%
will pay
more for
health(ier)
foods

protein

Omega-3s

high-oleic

23%
view soy as
heart-healthy

Opinio

Soy

NEWS

Consumer Attitudes about Nutrition

18th Annual Survey • 2011



Healthcare professionals can utilize this study and other USB resources when guiding consumer nutrition choices and meal plans.



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

Introduction

This 18th 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.

This year represents the sixth year we have adopted an online self-administered survey as our methodology, a significant change from telephone interviews conducted in previous years. The study, conducted by an independent research firm in January 2011, 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.

Results are generally quite comparable between methodologies. However, when presented with comparisons between 2006 to 2011 data and previous years, we recommend that the reader view the data for general trending purposes 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 Soy Connection newsletters for the food industry and for health professionals.

SOYCONNECTION
BROUGHT TO YOU BY THE UNITED SOYBEAN BOARD



Soy veggie burgers popular in restaurants

56% will pay more for health(ier) foods

23%



Consumers Aim to Choose Healthier Foods

Americans overwhelmingly say they are trying to choose foods that maximize nutrition and health. In 2011, 87 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 ten consumers say they have changed their eating habits in the past three to five years due to health concerns, fairly consistent with previous years.

Most consumers (92 percent) find health and nutrition information important when searching for healthy foods at the grocery store. Although just under half (49 percent) of U.S. consumers feel information about health and nutrition is too confusing, 90 percent review the Nutrition Facts panel when deciding which foods to purchase. This number is on par with the average for the last five years.

Consumers Examine the Good & Bad of Nutrition Facts

Consumers who consider the Nutrition Facts panel to be important most often mention total calories as their top concern (18 percent, on an unaided basis), a slight decrease from last year, which had been at a five-year peak of 20 percent. This year, consumers showed almost equal concern between total fat and sodium content (11 percent and 10 percent, respectively). Calories and fat have remained the top two concerns since 2007. Other items noticed most often on the Nutrition Facts panel were: sugar and ingredients/preservatives (8 percent), followed by carbohydrate, cholesterol, saturated fat and calories from fat. The importance of trans fat on the Nutrition Facts label decreased three points to 4 percent.

Interest in dietary fiber was also mentioned for the second time this year at 4 percent. Should this gain enough momentum to become a trend, this change in consumer focus could represent a future opportunity for the food industry relative to soy products with high fiber content.



Over Half of Americans believe soy-based foods can play a role in reducing obesity.

Reasons for Not Willing to Pay More for Healthier Foods



46%

I'd like to but can't afford it

The food I buy is already healthy **21%** Other..... **15%**

Healthier food wouldn't taste as good..... **13%** Don't know..... **6%**

Willingness to Pay More for Healthier Versions of Food



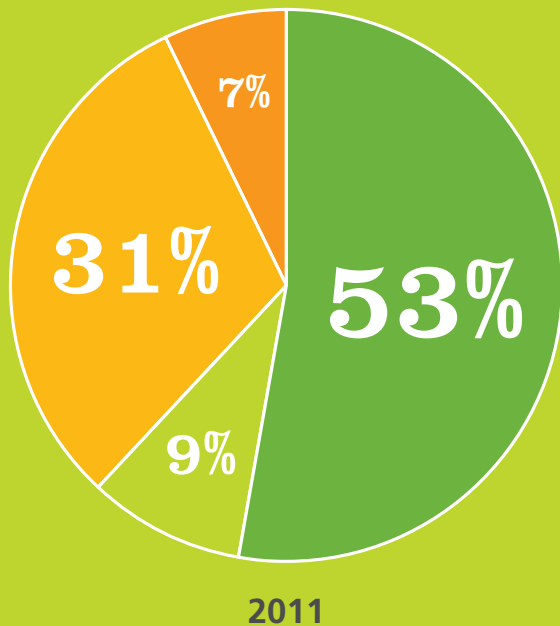
56%

willing in 2011

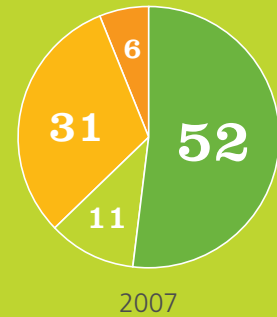
2010..... **53%** 2008..... **56%**

2009..... **54%** 2007..... **60%**

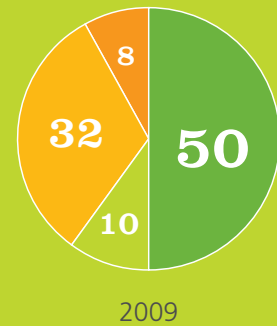
Effective Strategies for Improving Overall Health



- Following a moderate-fat diet, but choosing "good" fats over "bad" fats
- Following a low-fat diet by reducing all fats
- Both equally effective
- Don't know



2007

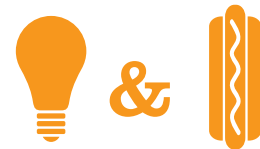


2009

Who Is to Blame for Obesity?

Respondents consider individual responsibility and the fast-food industry to be the top two causes of obesity (28 and 18 percent, respectively) on an unaided basis. These results are consistent with averaged data from the last five years, which also places individual responsibility in the number one slot (27 percent on average), followed by the fast-food industry at a close second (22 percent on average).

However, it is worth noting that, this year, the percent who blame the fast-food industry shifted down two percentage points, while the percent who blame parents is up by five points, moving it to third place. Not enough exercise/physical activity took fourth place at 15 percent.



Consumers consider individual responsibility and the fast-food industry to be the top two causes of obesity in America.

Consumers most often associate the following health benefits with soy:



Heart-Healthy



Source of Protein



**Low in Fat
& Cholesterol-
Lowering**



**Regulates
Hormones/Good
for Women**

Spotlight on Women's Health

Epidemiologic and clinical data suggest that soyfoods can make important contributions to the health of women including: reducing risk of breast cancer, alleviating the symptoms of menopause and helping to prevent bone loss.

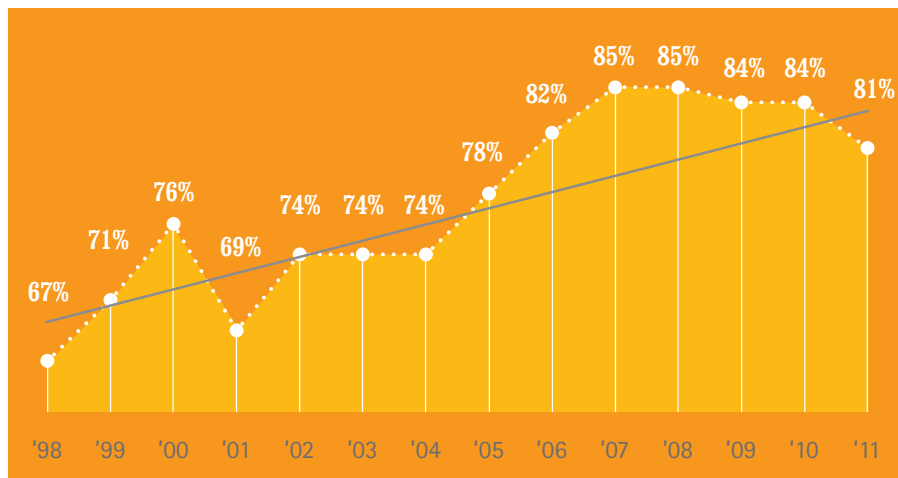


Over one-quarter of U.S. consumers seek out products containing soy in order to reap the health benefits.

Soyfoods Receive Healthy Rating

In 2011, over eight in ten consumers (81 percent) rate soy products as healthy on an aided basis, with very few rating them as unhealthy (only 5 percent). On par with last year, this number also reflects an increase of 14 percentage points in the perceived healthiness of soy products over the last 14 years.

Awareness of Soy as Healthy



Health Reasons for Seeking Soy

Twenty-eight percent of consumers seek out products specifically because they contain soy, and approximately 34 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: heart-healthy (23 percent), source of protein (22 percent, up significantly from 16 percent in 2010), low in fat (17 percent), regulates hormones/good for women (15 percent, up significantly from 3 percent in 2010) and cholesterol-lowering (10 percent).

On an aided basis, consumers are most aware of the health benefits of soy in relation to reduced risk of heart disease (35 percent), weight management (32 percent) and reduced risk of some cancers (23 percent).

FDA-Approved Heart Health Claim

About one-third of consumers aware of the health benefits of soy indicate they are also aware of the FDA health claim which states that consuming 25 grams of soy protein per day may reduce the risk of coronary heart disease. Once the statement is provided to them, 44 percent agree with the health claim, a number that has remained consistent over the last five years.

Soybean Oil & Health Align

Fifty-six percent of Americans are aware of soybean oil as a cooking oil and 97 percent 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 (71 percent).

Consumers recognize olive oil (89 percent), flaxseed oil (75 percent), canola oil (72 percent) and soybean oil (67 percent) as the healthiest oils. Sunflower ranks fifth (65 percent), followed by safflower (62 percent).

Consumers continue to perceive soybean oil as a healthy choice. Among consumers with an opinion on healthiness, 81 percent think soybean oil is very or somewhat healthy. Consumers continue to rate soybean oil as the third most "very healthy" oil, behind olive and flaxseed oils. This suggests product development opportunities, as consumers continue the trend of at-home eating and entertaining in 2011.

Butter & Margarine Impressions

In 2011, half of consumers (54 percent) consider butter to be healthier than margarine or buttery spreads, a six point increase from 2010 but on par with 2007. Consumers who think butter is healthier continue to cite their main reason as "it's more natural" than margarine. Those who believe margarine is healthier (33 percent of consumers) cite margarine's lower fat content.

However, when a heart health claim is included with margarine, half of consumers say margarine is healthier than butter (48 percent vs. 28 percent, respectively). Yet, this year, significantly more Americans respond that they don't know which is healthier (24 percent in 2011 vs. 14 percent in 2010). Results indicate a real need/opportunity for margarine manufacturers to educate via product packaging.



Soy's health benefits are numerous, starting with soy protein's ability to directly lower LDL ("bad") cholesterol. Research suggests soy protein may help prevent certain cancers, promote bone health, alleviate symptoms of menopause and play a role in weight management.

Information Sources about Soy & Health

TV News	42%	Newspapers	29%
Internet	42%	Doctors/Other Health Professionals	17%
Magazines	35%	Social Media*	8%
Family & Friends	30%	Radio	6%



* New option in 2011



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, potentially increasing consumer awareness of heart-healthy soybean oil even further.

Consumers Recognize Fats in Improving Overall Health

Many consumers distinguish between the health effects of different types of fat. Just over half (53 percent, up significantly from 45 percent in 2010) believe the most effective strategy for improving overall health is to follow a moderate fat diet that chooses “good” fats over “bad” fats, rather than to adopt an overall low-fat diet by reducing all fat intake (9 percent).

How Do Fats Rate?

Despite an interest in choosing “good” fats over “bad” fats, most U.S. consumers have a hard time pinpointing the healthier choices. Only 33 percent of Americans recognize polyunsaturated fats as healthy, and 33 percent recognize monounsaturated fats accordingly. Heart-healthy omega-3 fatty acids remain the only type of fat that consumers rate more healthy than unhealthy.

In 2011, 79 percent of Americans consider omega-3 fatty acids very or somewhat healthy (on par with 2010 at 76 percent, and up 9 percent from 2007). 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.

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 (21 percent vs. 10 percent, respectively in 2011). 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 five years. In fact, now over one-third of consumers consider these fats to be nutritionally about equal (a response option added this year). 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).

Perceived Healthiness of Saturated Fat vs. Trans Fat

	2003	2005	2007	2009	2011
Saturated fat healthier	30%	28%	42%	35%	21%
Trans fat healthier	41%	30%	16%	19%	10%
Nutritionally about equal	NA	NA	NA	NA	35%

Fats Consumers View as Very/Somewhat Healthy

	2009	2010	2011
Omega-3 fatty acids	75%	76%	79%
Polyunsaturated fat	29%	32%	33%
Monounsaturated fat	32%	30%	33%
Trans fat	9%	10%	9%
Saturated fat	7%	9%	8%

56%

of Americans would be more likely to purchase products reformulated to eliminate trans fats.



91%
in 2011

Consumers continue to think saturated fat is somewhat to very unhealthy.

Trans Fat Awareness and Opinion

Seventy percent of Americans view trans fat as very unhealthy, a decrease from 2010, then at 73 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.

Nearly one-half of all consumers (49 percent) are aware of media coverage surrounding trans fat, a significant decrease from 2010, then at 54 percent, and from the height of coverage in 2007 (65 percent).

When asked which specific news stories consumers recalled about trans fat, they primarily recalled a generic "they are unhealthy/worst kind of fat" message. This year is the first time that this catch-all response has been recorded (35 percent). During the past five years, consumers chiefly cited stories about obesity and weight concerns, yet only 2 percent did so in 2011, a significant decrease from 43 percent in 2010 and 45 percent in 2009. The second most commonly cited news coverage was "don't know" at 22 percent and increased risk of coronary/heart disease at 13 percent.

The percentage of Americans who say they are very unlikely to purchase foods with trans fat listed on the Nutrition Facts panel held steady at 41 percent in 2011 (same as in 2010 and 2009). However, 56 percent of consumers continue to say they would be more likely to buy a product that they currently enjoy if the food company reformulated the product in order to list zero grams of trans fat on the product label.

Of those consumers who pay attention to trans fat on the Nutritional Facts panel, 80 percent do so because they consider trans fat to be "bad for you." This is a significant increase from last year when 54 percent gave the same reason. This year, 18 percent of consumers reported they simply "will not eat foods with trans fats" (compared to 10 percent in 2007 and 2 percent in 2006). At the same time, concern about trans fats in terms of "watching fat intake" decreased from 10 percent in 2009 to 0 percent in 2011, on par with 2006-2008.

Top Soy Products by Awareness in 2011

Soymilk	90%
Plain white tofu	59%
Soy veggie burger	57%
Soybean oil	56%
Soynuts	42%
Edamame	40%
Soy protein bars	39%
Soy infant formula	38%
Soy latte/soymilk in espresso drinks	38%
Dried or canned soybeans	33%
Cereal bar/energy bar	33%
Miso	31%
Soy yogurt	31%
Soy ice cream/cheese	29%
Soy hot dogs	27%
Flavored/marinated tofu	25%
Soy flour	23%
Soy supplements	20%
Soy breakfast cereal	18%
Textured soy protein	18%



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

More Consumers Eat & Drink Soy

Thirty-seven percent of Americans consume soyfoods or soy beverages once a month or more, approximately five percentage points higher than during the period between 2006 and 2008. Conversely, 33 percent indicate that they never consume soy, which has decreased steadily since 2006 (then at 43 percent). For the eighth year in a row, consumers reported the most familiarity with soymilk, soybean oil, tofu and soy veggie burgers.

Soymilk continues to be the most regularly consumed soy product, with one-fifth of Americans reporting that they drink it regularly. For comparison, in 1999, 18 percent of consumers reported that they had tried soymilk. By 2011, the number of consumers who have tried soymilk has more than doubled to 43 percent of all consumers.

Edamame holds the number two spot and has surpassed veggie burgers among the top three most consumed soyfoods for the past three years. In fact, it has more than tripled in popularity since 2005 (then at 4 percent and now at 13 percent). Soy veggie burgers and plain white tofu follow in third and fourth place, respectively, on par with 2010, at 11 percent and 10 percent.

Occasion Preferences for Consuming Soy

Dinner remains the most popular meal time for consuming soy products (40 percent). Other respondents cite their favorite occasion for eating soy as breakfast (29 percent), lunch (22 percent), mid-afternoon snacking (19 percent), late evening snacking (11 percent), mid-morning snacking (9 percent) and desserts (3 percent).

Consumers Seek Soy at Restaurants

Among Americans who order soy in restaurants, soy veggie burgers are the most common choice at 31 percent (up significantly from 2010, then at 20 percent). After soy veggie burgers, soymilk (20 percent), edamame (18 percent) and tofu (15 percent) are most popular.

Overall, consumers tend to order the soy products at restaurants that they enjoy at home.

About one-third of 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 represents a menu development opportunity for restaurants.

Nutrition as a Benefit of Biotechnology

Forty-three percent of consumers are familiar with the term biotechnology and half of those familiar with biotechnology view its role in food production very to somewhat positively, on par with previous years.

One-quarter of these consumers indicate they are aware of the health and nutrition benefits that result from biotechnology, up slightly from 2010, but on par with previous years. Increased nutritional value, larger crop yields and more vitamins/minerals in foods continue to be the most common benefits identified by these consumers.

Sustainability Is Important

Six in ten consumers say they are at least somewhat concerned about the social and environmental sustainability of the foods they eat.

However, among those concerned, three in ten say they don't do anything specific to address their concerns. Among those who take action of some sort, buying local (16 percent), reading labels (12 percent) and buying organic (11 percent) are mentioned most often. Should this gain momentum and become a trend, this change in consumer focus could represent 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.



Biotechnology Offers Consumer Benefits

Biotech soybeans will increasingly offer direct consumer benefits in the coming years. New varieties will provide trans fat solutions, reduced saturated fat and increased omega-3s for heart health. This is in addition to growing more food with less land and water to feed a hungry world in an environmentally sustainable way.



Over half

of consumers are interested in a ground meat and soy combination product.

Consumer Interest in Combined Ground Meat & Soy Products

Beef
61%



Turkey 21%



Pork 4%



Chicken 13%



Other 1%



A farmer-led organization comprised of 69 farmer-directors, the United Soybean Board oversees the investments of the soybean checkoff of all U.S. soybean farmers.



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.

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