

Food Biotechnology: A Study of U.S. Consumer Attitudinal Trends 2006 REPORT

EXECUTIVE SUMMARY

After a decade of consumer attitudinal research, it is clear that a majority of consumers are confident in the safety of the U.S. food supply and express little to no concern about food and agricultural biotechnology. A significant majority also have no outstanding concern about labeling foods produced using biotechnology as such.

Higher awareness correlates with purchase intent, with a few exceptions, and the provision of information and context has a positive effect on attitudes. Therefore, with increasing numbers of consumers who state that they have heard nothing about biotechnology, there is a clear need for science-based information about the subject. This information should be conveyed clearly and accurately to the public, using understandable language and providing contextual information.

Methodology

The International Food Information Council (IFIC) commissioned Cogent Research to conduct the 11th in a series (1997 to 2006) of quantitative assessments of U.S. adult consumer attitudes toward food biotechnology during June and July of 2006. The purpose of the study is to:

- track public awareness and perceptions of food biotechnology;
- identify concerns related to foods that have been produced using biotechnology, within the context of broader food safety and labeling issues;
- measure the extent to which consumers change their behavior because of biotech foods; and
- measure the extent to which certain benefits of agricultural biotechnology resonate with the public.

In 2006, the IFIC consumer survey on food biotechnology migrated from phone to Web methodology. Collection of consumer data via the Internet is currently considered the

preferred survey methodology, due to improved access to consumers and potentially a more accurate measure of consumer opinion, compared to phone data collection.

The migration to Web from phone included measures to ensure the continued ability to track attitudes over time, and to correct for observed differences that were due to changes in methodology. The sampling error is $\leq 4.4\%$, and statistically significant differences are represented at the 95% confidence level. Finally, the data were weighted according to U.S. Census data, in order to be nationally projectable.

Findings

Overall, a majority of Americans are confident in the safety of the U.S. food supply and express little to no concern about food and agricultural biotechnology.

Nearly three-fourths (72%) of consumers say they are confident in the safety of the U.S. food supply. When prompted to indicate food safety concerns, most consumers mention microbial foodborne illness (36%) or improper handling (35%), while only three percent of all consumers cite food biotechnology.

And although more than half of all Americans report avoiding some type of food or food ingredient (59%), none mention biotech foods as something they are avoiding. When asked directly, only two percent say they have recently changed their behavior due to concerns about food biotechnology.

Many consumers are neutral (33%) or unsure (18%) when asked specifically for their opinion on food biotechnology. However, those consumers who do have an opinion are almost twice as likely to have a positive view (32%) than to have a negative view (17%).

Food biotechnology is not a consumer labeling demand.

An overwhelming majority of consumers (82%) state that there is no information that they would like to see added to food labels. Only one percent name biotechnology as information they would like to see added. These findings have been consistent since 2001 when the question was first asked on the survey. Additionally, support for the U.S. Food and Drug Administration's (FDA) current policy regarding labeling of foods produced through biotechnology is strong at sixty-four percent, with another one-fourth (24%) holding neutral views, and only twelve percent opposing the current policy.

Although many consumers have heard at least "a little" about food biotechnology, awareness has declined and knowledge is superficial.

Although close to three-fourths (71%) of consumers have heard at least "a little" about biotechnology, only eight percent have heard "a lot". Three-fourths (74%) of consumers are unaware that biotech foods are currently available in the supermarket, and the twenty-six percent who are aware most often name "vegetables" as the food that is available.

In light of the lack of high awareness of food biotechnology, it is not surprising that over half (53%) of consumers are unsure about potential benefits. However, consumers with an opinion are twice as likely to believe biotechnology will provide benefits in the next few years than not (33% vs. 14%, respectively). Those who believe there will be benefits are most likely to cite improved nutrition (41%) or quality (35%).

Communicating specific benefits may enhance perception.

Learning of the benefits of biotech foods has a significant impact on consumers' likelihood to buy, particularly for a health benefit (77% likely to buy for increased omega-3 fatty acid content; 75% for reduced saturated fat content) or insect protection/pesticide reduction (75%), but also for improved taste or freshness (63%).

In general, likelihood to purchase biotech foods increases as awareness increases. However, awareness levels have less impact on purchase intent when it comes to consuming healthful fats, where purchase intent is high across all awareness levels.

Although awareness is low, consumers remain open to the broad concept of animal biotechnology, in general.

Animal biotechnology favorability has shifted toward both more positive impressions ("very favorable" has increased from 1% to 6%) while the most negative impressions have declined (12%, down from 16%). Still, there are more who don't know enough to form an opinion (30%, up from 24%), and twenty-eight percent are neutral.

At the same time, the number of consumers who have read or heard "nothing at all" about animal biotechnology has increased for the second year in a row (55% vs. 46% in 2005 and 40% in 2004). Indeed, those who don't know enough to form an opinion are more likely to have heard nothing at all about the technology.

There is evidence of the positive impact that information can have on acceptance of animal biotechnology, in some cases. Information examined in this study included descriptions of specific types of animal biotechnology, benefits, and government conclusions regarding safety. When specific types of animal biotechnology are described, consumers express higher favorability for animal genomics (37%) and genetic engineering (35%), compared to favorability for the broad concept of animal biotechnology. (See discussion of animal cloning below.)

Regarding the impact of benefits information, more than half of consumers say that their impression of animal biotechnology improves when they are told it can improve the quality and safety of food (59%). Nearly half are positively impacted by information regarding increases in farm efficiency (47%), and reduction of environmental impact of animal waste (49%). In addition, more than half (58%) of consumers say they would be likely to buy products from animals enhanced through genetic engineering if the FDA determined they were safe.

Consumers remain opposed to the notion of animal cloning, as well as the use of cloned animals for breeding.

Less than one-fifth (16%) of U.S. adults give a favorable rating for their impression of animal cloning, while over half (56%) give an unfavorable rating. Regarding the use of cloned animals for breeding purposes, more consumers are neutral (36%) compared to those who are neutral toward cloning (28%), and fewer are unfavorable (46%).

Fewer consumers state that they are “not at all likely” to purchase foods from cloned animals (30% vs. 35%), compared to 2005, as well as an increase in those who are “very likely” to purchase foods derived from the offspring of cloned animals (9% vs. 4%), with safety assurances from FDA. However, the majority remain unlikely to purchase foods from cloned animals (58%) or their offspring (59%).

The majority of consumers continue to be unaware of plant-made pharmaceuticals, but those who are aware tend to be favorable.

The majority (59%) of consumers say they know “nothing at all” about using biotechnology to produce medicine in food crops. Although twenty-five percent of consumers say they don’t know enough about plant-made pharmaceuticals to form an opinion and twenty-seven percent are neutral, those who have formed an opinion lean heavily towards the positive (42% favorable versus 6% unfavorable).

Conclusions

While there is no overwhelming consumer demand for more information about food biotechnology, it will be important to continue to make science-based information available to the public. Should interest in foods enhanced through biotechnology increase, or questions arise, health professionals, government officials, and food providers should be prepared to help the public understand issues such as safety, regulation, and benefits of the technology. Such efforts can contribute to an overall appreciation for how the foods consumers enjoy make the journey from farm to plate.

2006 TOPLINE DATA

1a. Thinking about your diet over the past few months, are there any foods or ingredients that you have avoided or eaten less of?

Analyzed Responses 497

Yes	59%
No	40%

[If yes...]

1b. What foods or ingredients have you avoided? [Open-ended; Multiple responses allowed]

Analyzed Responses 295

Sugars/Carbs	50%
Fats, Oils, Cholesterol	33%
Animal Products	28%
Snack Foods, Fast Foods, Soda	16%
Salt, Sodium, Spices	12%
Biotech	0%
Other	11%
Don't Know/Refused	1%

2a. Can you think of any information that is not currently included on food labels that you would like to see on food labels?

[If yes...]

2b. What types of information would that be? [Open-ended; Multiple responses allowed]

Analyzed Responses 497

Yes	18%
Nutritional Information	7%
Ingredients (general)	3%
Source/Processing Info	3%
Food Safety Info	1%
Biotech	1%
Other	5%
No	82%

3. How confident are you about the safety of the US food supply? Would you say...?

Analyzed Responses 497

Very confident	21%
Somewhat confident	51%
Neither confident nor not confident	18%
Not very confident	9%
Not at all confident	0%

4. What, if anything are you concerned about when it comes to food safety? [Open-ended; Multiple responses allowed]

Analyzed Responses 321

Disease/contamination	36%
Handling/preparation	35%
Source/Agricultural production	18%
Processed foods/Preservatives/ Chemicals	16%
Packaging/labeling	15%
Health/nutrition	6%
Biotech	3%
Other	4%

5. As you may know, some food products and medicines are being developed with the help of new scientific techniques. The general area is called "biotechnology" and includes tools such as genetic engineering. Biotechnology is also being used to improve crop plants. How much have you heard or read about biotechnology? Would you say you have read or heard...?

Analyzed Responses 497

A lot	8%
Some	27%
A little	36%
Nothing at all	29%

6. What is your overall impression of using biotechnology with plants that produce food products? Would you say...?

Analyzed Responses 497

Very favorable	10%
Somewhat favorable	22%
Neither favorable nor unfavorable	33%
Not very favorable	13%
Not at all favorable	4%
Don't know enough about it to form an opinion	18%

7a. As far as you know, are there any foods produced through biotechnology in the supermarket now?

Analyzed Responses 497

Yes	26%
No	6%
Don't know	68%

[If yes...]

7b. Which foods would those be? [Open-ended; Multiple responses allowed]

Analyzed Responses 123

Vegetables	42%
Meats/Eggs/Fish	31%
Fruits	23%
Corn/Corn products	18%
Tomatoes	14%
Cereals/Grains	12%
Soy	2%
Potatoes	2%
Milk/Dairy	1%
Other	8%

8a. Do you feel that biotechnology will provide benefits for you or your family within the next five years?

Analyzed Responses 497

Yes	33%
No	14%
Don't know	53%

[If yes...]

8b. What benefits do you expect?

Analyzed Responses 166

Nutrition/health benefits	41%
Improved Quality/Taste/Variety	35%
Price/Economic benefits	23%
Improved crops/ Agricultural production	21%
Reduced pesticides/Chemicals	9%
Safer foods	4%
Other	1%
Don't know/refused	8%

9. All things being equal, how likely would you be to buy a variety of produce, like tomatoes or potatoes, if it had been modified by biotechnology to taste better or fresher?

Analyzed Responses 497

Very likely	17%
Somewhat likely	46%
Not too likely	30%
Not at all likely	7%

10. All things being equal, how likely would you be to buy a variety of produce, like tomatoes or potatoes, if it had been modified by biotechnology to be protected from insect damage and required fewer pesticide applications?

Analyzed Responses 497

Very likely	27%
Somewhat likely	48%
Not too likely	19%
Not at all likely	7%

11. All things being equal, how likely would you be to buy a food product, made with oils that had been modified by biotechnology to reduce the saturated fat content in the food?

Analyzed Responses 497

Very likely	25%
Somewhat likely	50%
Not too likely	17%
Not at all likely	7%
No answer	1%

12. All things being equal, how likely would you be to buy a food product, made with oils that had been modified by biotechnology to provide more healthful fats, like Omega-3, in the food?

Analyzed Responses 497

Very likely	27%
Somewhat likely	50%
Not too likely	15%
Not at all likely	7%
No answer	1%

13a. The U.S. Food and Drug Administration (FDA) requires special labeling when a food is produced under certain conditions: when biotechnology's use introduces an allergen or when it substantially changes the food's nutritional content, like vitamins or fat, or its composition. Otherwise special labeling is not required. Would you say that you strongly support, somewhat support, neither support nor oppose, somewhat oppose, or strongly oppose this policy of FDA?

[Of those who support or oppose...]

13b. Why do you feel that way?

Analyzed Responses 497

Strongly support	40%
Somewhat support	24%

I/Consumers should know the facts/ everything	21%
Want to know for self and family	12%
Concerned about product safety	6%
Concerned about allergies	4%
Consumers should have the choice	3%
Label should disclose all information	3%
Other	7%
No reason	6%

Somewhat oppose	8%
Strongly oppose	4%

Label should disclose all information	4%
Want more information for self and family	3%
I/Consumers should know the facts/ everything	3%
Concerned about product safety	2%
Other	*0%

Neither support nor oppose	24%
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14a. During the past few months, have you taken any action or done anything because of any concerns you may have about foods produced using biotechnology?

Analyzed Responses 497

Yes	2%
No	97%

[If yes...]

14b. What actions have you taken? [Open-ended; Multiple responses allowed]

Analyzed Responses 9

Altered purchase behavior	1.3%
Activism	<1%
Other	<1%
Don't know/refused	<1%

15. And, how much have you read or heard about using biotechnology to produce medicines from special varieties of food crops such as corn and rice? Would you say you have heard...

Analyzed Responses 497

A lot	3%
Some	14%
A little	24%
Nothing at all	59%

16. What is your overall impression of using biotechnology to produce medicines from food crops such as corn and rice? Would you say...?

Analyzed Responses 497

Very favorable	17%
Somewhat favorable	25%
Neither favorable nor unfavorable	27%
Not very favorable	4%
Not at all favorable	2%
Don't know enough about it to form an opinion	25%

17a. Now I would like to talk to you about animal biotechnology. First of all, how much have you read or heard about applying the science of biotechnology to animals? Would you say you have heard...?

Analyzed Responses 497

A lot	3%
Some	17%
A little	25%
Nothing at all	55%

[If yes...]

17b. What did you read or hear about animal biotechnology? [Open-ended; Multiple responses allowed]

Analyzed Responses 220

Healthier/Disease-resistant animals	37%
Biotechnology generally	22%
Cloning	16%
Changes in care/raising of animal	10%
Genetic Engineering	8%
Research/testing on animals	3%
Better quality food	3%
More food	2%
Breeding	2%
Other	6%
Don't know	16%
No answer	11%

18. What is your overall impression of using biotechnology with animals that produce food products such as meat, milk, and eggs? Would you say...?

Analyzed Responses 497

Very favorable	6%
Somewhat favorable	13%
Neither favorable nor unfavorable	28%
Not very favorable	12%
Not at all favorable	12%
Don't know enough about it to form an opinion	30%

Now, please read the following statements regarding the potential benefits of animal biotechnology. As you read each one, please indicate whether the information has a positive effect on your impression, a negative effect, or no effect at all (19-21):

19. Animal biotechnology can increase farm efficiency by increasing the amount of food produced or decreasing the amount of feed needed by the animals.

Analyzed Responses 497

Positive effect	47%
Negative effect	21%
No effect at all	31%
Don't know	N/A

20. Animal biotechnology can improve the quality and safety of food (for example, through improved animal health or improved animal health or improved nutritional quality of the food produced.

Analyzed Responses 497

Positive effect	59%
Negative effect	15%
No effect at all	25%
No answer	1%

21. Animal biotechnology can reduce the environmental impact of animal waste.

Analyzed Responses 497

Positive effect	49%
Negative effect	13%
No effect at all	37%
No answer	1%

Animal biotechnology is a broad science, which is actually comprised of a few major areas. As you read the brief description of each area, please select the answer that corresponds with your overall impression of that specific aspect of animal biotechnology (22-25). First...

22. Genomics is a form of animal biotechnology that uses knowledge about the genetic makeup of animals to aid in conventional breeding and selection. Would you say your overall impression of animal genomics is...

Analyzed Responses 497

Very favorable	16%
Somewhat favorable	21%
Neither favorable nor unfavorable	39%
Not very favorable	15%
Not at all favorable	9%

23. Genetic engineering is a form of animal biotechnology that allows us to move beneficial traits from one animal to another in a precise way. Would you say your overall impression of genetic engineering in animals is...

Analyzed Responses 497

Very favorable	13%
Somewhat favorable	22%
Neither favorable nor unfavorable	31%
Not very favorable	21%
Not at all favorable	12%
No answer	1%

24. Cloning is a form of animal biotechnology that retains desirable traits by producing an animal that is an identical twin. Would you say your overall impression of animal cloning is...?

Analyzed Responses 497

Very favorable	6%
Somewhat favorable	10%
Neither favorable nor unfavorable	28%
Not very favorable	23%
Not at all favorable	33%
No answer	1%

25. In some cases, animals that have been produced through cloning are only used for breeding. Would you say your impression of this form of animal biotechnology is...

Analyzed Responses 497

Very favorable	5%
Somewhat favorable	13%
Neither favorable nor unfavorable	36%
Not very favorable	18%
Not at all favorable	28%

26. If the U.S. Food and Drug Administration (FDA) determined that meat, milk, and eggs from animals enhanced through genetic engineering were safe, how likely would you be to buy them? Would you say...?

Analyzed Responses 497

Very likely	12%
Somewhat likely	45%
Not too likely	22%
Not at all likely	20%

27. And if the U.S. Food and Drug Administration (FDA) determined that meat, milk, and eggs from cloned animals were safe, how likely would you be to buy them? Would you say...?

Analyzed Responses 497

Very likely	9%
Somewhat likely	33%
Not too likely	28%
Not at all likely	30%
No answer	1%

28. And if the U.S. Food and Drug Administration (FDA) determined that meat, milk, and eggs from the offspring of cloned animals were safe, how likely would you be to buy them? Would you say...?

Analyzed Responses 497

Very likely	9%
Somewhat likely	32%
Not too likely	29%
Not at all likely	30%