



Executive summary
**Food Biotechnology: Consumer perceptions of
food biotechnology in Asia**

ASIAN FOOD INFORMATION CENTRE (AFIC)

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Food Biotechnology: Consumer perceptions of food biotechnology in Asia Executive summary of the Asian Food Information Centre 2008 consumer survey

INTRODUCTION

Genetically modified foods will most likely become an increasing feature of the Asian diet in light of the region's growing demand for high volumes of quality food. The Asian Food Information Centre (AFIC) conducted this consumer research to provide insights on how consumers in Asia perceive the use of biotechnology to produce foods and how likely consumers are to accept the various benefits biotechnology derived foods may bring.

The purpose of this consumer research is to:

- Understand attitudes about confidence in the safety of the food supply and food labeling
- Identify concerns related to foods that have been produced using food biotechnology within the context of broader food safety and labeling issues
- Track public awareness and perceptions of food biotechnology
- Measure the extent to which direct consumer benefits of food biotechnology resonate with the public
- Uncover emerging opinions on 'sustainable food production'

METHODOLOGY

AFIC commissioned The Nielsen Company Research to conduct a quantitative assessment of consumer attitudes toward food biotechnology. The research was conducted via an on-line survey of 1007 adults, aged 18-64, and living in 5 major cities in 5 different countries. The number of respondents for each city was: Beijing n= 200; New Delhi n= 204; Manila n= 200; Seoul n= 202 and Tokyo n= 201.

Quotas were set to best reflect the demographic population in the cities.

The survey took place from 15th July to 15th August 2008. Respondents could chose between an English language questionnaire and a version translated into the local language.

KEY FINDINGS

Food safety

Confidence in the safety of the food supply is on average neutral to mildly positive. More accurate food labels seem to be critical in order to increase the consumer confidence level in food safety. Food poisoning, country of origin, pesticide residues and food additives are the top food safety concerns in all countries. Consumers in the five countries express little to no concern about safety of food biotechnology.

On average, consumers in the surveyed countries reported mildly positive levels of confidence in the safety of the food supply, with 43% of the consumers being rather confident, 13% very confident and 22% being neutral. The most confident are consumers in India and China with respectively 66% and 65% of the consumers reporting they are rather/very confident, followed by the Japanese consumers (56%), consumers in the Philippines (48%) and the least confident are consumers in South Korea with 43% reporting to be rather/very confident.

Spontaneous concerns mentioned about safety issues related to foods show some similarities among the different countries. Inaccurate labels are a major concern for consumers in all countries. Though, consumer concerns are also very much influenced by recent food safety issues in their respective countries. 6% of the Japanese consumers mentioned that the safety of imported food products is a concern (third most important concern) This is most likely influenced by the recent food poisoning incident (frozen Gyoza dumplings) related to products from China. In South Korea, 14% of the consumers mentioned 'diseases' to be a concern, which could stem from the mad cow disease issue related to the import of US beef. Also in South Korea, where the media broadly covered the decision of food manufacturers to buy GM corn for use in food products, 6% of the consumers mentioned that GM food is a concern. In the other countries, GM food is of very limited or no concern. In Japan, 2% of the consumers spontaneously mentioned 'GM food' as a concern, while in India, China and the Philippines food biotechnology was not mentioned spontaneously as a concern.

Consumers were then shown a list of possible food safety issues and asked how concerned they were with each. Among the five countries, the highlighted food safety concerns tend to be quite similar. Food poisoning, pesticide residues, food additives and unknown source of food were highlighted by consumers in all countries. Food biotechnology was not indicated as a safety concern in Japan, China, India and the Philippines. In South Korea consumers showed some level of concern. This is most likely driven by some recent negative press reports related to the increased imports of GM corn and soy.

Food labeling

The most important information consumers in Asia look for on food labels is expiry date. About one third of the consumers claimed that the available information on food labels is insufficient. Presence of biotechnology-derived ingredients is not a labeling demand.

To better understand the importance of information on food labels, respondents were questioned about their use of food labels as a source of information on nutrition and food safety. As an average, two thirds of the consumers said to read the labels at least regularly. The incidence of reading labels in South Korea is lower compared to the other countries where only one third of the consumers said to read the labels regularly/always. In all countries, expiry date is the most important information looked for on food labels, with 67% of the respondents in India saying this is the most important information they look

for and 48% of the consumers in Japan saying the same. Also important are food additives (all countries), vitamin contents (China, Philippines), trans fats (South Korea). Only in South Korea and Japan, where GM labeling is a topic of discussion, a small percentage of the consumers (4% in Japan, 7% in South Korea) mention they consider presence of GMO ingredients as the most important information.

When asking about missing information on food labels, as an average, about two thirds of the respondents mentioned that there is no information they would like to see added to food labels. The percentage is lower in China where only 54% of the consumers said they are satisfied with the current labeling information, while a higher percentage of consumers in the Philippines (74%) and South Korea (74%) said the current labels provide sufficient information.

When probed about the missing information, answers vary from country to country. Japanese and Korean consumers would like to see manufacturing information added (country, place); consumers in China would like to see more information on ingredients and chemicals; in India, consumers are interested in information on retail cost and ingredients; consumers in the Philippines would like information about expiry date and ingredients.

None of those interviewed in China, India, Philippines and Japan suggested presence of biotechnology-derived ingredients as an additional item to be included on labels. In South Korea, a small number of consumers (3% of total respondents) mentioned biotechnology contents as information to be added on labels.

Food Biotechnology in general

Awareness of biotechnology is low in the surveyed countries, with the exception of the Philippines where knowledge levels are significantly higher compared to the other countries. Consumer perceptions of the technology show two different patterns among the surveyed countries which can be related to their agricultural activities. Consumers in China, India and the Philippines, the food producing countries, are more positive about the benefits plant biotechnology can bring compared to the food importing countries Japan and South Korea.

Consumers in the Philippines appear to be the most knowledgeable about plant biotechnology with 29% of the respondents saying they know a lot about the technology. Yet, the knowledge seems to be superficial. 69% of the consumers in the country are not sure about the availability of biotech food in grocery shops and 97% of those consumers saying they are aware of the presence of biotech foods in shops name GM rice as being available.

In the other countries knowledge levels are lower, with the level of consumers claiming they are very familiar being only a few percentages points. However, a vast majority of the consumers claim to have heard at least a little about biotechnology. The percentage of consumers thinking biotech foods are available in grocery shops ranges from 22% for Japanese consumers to 45% for Chinese consumers (India: 32%; South Korea: 40%). 83% of consumers in South Korea and 90% of consumers in Japan rightly name soy products as being available in grocery shops.

A better understanding of the consumer attitudes towards food biotechnology indicates the existence of two country clusters, the food production countries (China, India and the Philippines) and the food importing countries (South Korea and Japan), with distinct consumer perception patterns in each.

Consumers in China, India and the Philippines are more favorable towards the technology and a majority of the consumers believe that food biotechnology will bring benefits in the next few years. Most positive are consumers in the Philippines with 73% thinking that food biotechnology will bring benefits to them or their family in the next 5 years, followed by India (70%) and China (55%). Among the expected benefits, consumers in the three countries are most likely to mention improved quality. The second most highly ranked benefit for China: improved yield, for India: healthier products and for the Philippines: avoid food crisis by making food more affordable.

Consumers in South Korea and Japan are less favorable towards the technology and as a consequence are less likely to believe food biotechnology might bring benefits in the next five years. In Japan, 71 % of the consumers are unsure about the potential benefits and only 11% think the technology will bring benefits. In South Korea, 45% of the consumers are unsure and 24% expect benefits. Those consumers who believe food biotechnology will bring benefits are citing first improved quality followed by more affordable products.

Consumer benefits: nutritious foods

An improved understanding about the direct consumer benefits of biotech foods raises consumer acceptance. Consumers who are positive about the broad range of potential benefits those biotechnology-derived foods can offer, expressed by a high likelihood of buying such products. Japanese consumers however showed a higher resistance in buying such foods. The most popular benefits vary among the countries with improved nutritional value, tastier products, reduced pesticides use and reduced cost all being highlighted.

Based on a list of various possible benefits of biotech foods, consumers were asked to indicate their likelihood of buying such foods. Information could thus be obtained about consumer attitudes toward buying biotech foods and provide a better understanding of which benefits resonate highest.

Consumers in China, India and the Philippines were positive about the broad range of possible benefits that biotechnology-derived foods may offer which is reflected in their purchasing behaviour. The purchasing likelihood for the various biotech foods, characterized by different consumer benefits, varied from 67-82% for China, 63-84% for India and 79-98% for the Philippines.

With Japan and South Korea being less favorable towards food biotechnology, consumers in these countries are less likely to buy biotech foods. Japanese consumers show the highest resistance. For all mentioned examples of biotech-derived nutritionally or functional foods, consumers in Japan indicated a likelihood of buying these foods, ranging between 28-45%. In South Korea the buying likelihood varied from 53-66%.

The most popular benefits are country-dependant and can be linked to the dietary habits and the food sensitivities in each country. Chinese consumers favor nutritionally enhanced soy products (82% are likely to buy such products), followed by reduced pesticides use and improved taste and freshness; Indian consumers indicated freshness and taste as the most important attribute (84% are likely to buy tastier and fresher GM tomatoes) followed less expensive foods; in the Philippines less expensive food such as rice is popular (98% likelihood) followed by healthier cooking oil (reduced in saturated and trans fats). Korean consumers favor cooking oil and foods with a healthier oil profile, respectively 66% and 65% of these consumers indicate they are likely to buy such products. In Japan, where the likelihood of buying biotech foods with enhanced functional properties is low, freshness and taste is the most preferred benefit.

Food biotechnology and sustainability

Although most Asian consumers are not familiar with the concept of ‘sustainable food production’, once the concept is explained a majority of the consumers believe sustainable food production is important. Consumers also largely accept plant biotechnology if the technology contributes to a more sustainable way of producing foods.

Consumer knowledge about sustainability is low. Less than 10% of the respondents in China, India, South Korea and Japan answered that they have heard a lot about it. In the Philippines, knowledge seems to be higher, with almost 20% of the consumers saying to have heard or read a lot about sustainability. After explaining the concept as ‘growing food with less inputs/resources such as water, fertilizer, pesticide or land to minimise the impact on the environment’, a majority of the consumers said they believe sustainable food production is important. Consumers in the Philippines attached most importance to the sustainability concept with 84% of the consumers answering they find it quite important that the food they buy comes from a food producer enrolled in a scientifically validated sustainable food production program, followed by 76% for China and 69% for India. Consumers in South Korea (63%) and Japan (40%) attach less importance to the concept. This can most likely be explained by the fact that these countries are producing less food themselves and depend largely for their food supply on imports.

When asked to rank 7 factors relating to sustainable food production, increasing the production of food staples in order to reduce world hunger and reducing the amount of pesticides needed to produce food were highlighted by consumers in all countries as important benefits. Increasing the production of food staples in the world leading to reduced production costs in the field and thereby reducing the cost of food was also ranked as important by consumers in the Philippines and South Korea.

Consumers are very positive towards plant biotechnology if the technology is related to sustainable food production. More than 90% of the consumers in China, India and the Philippines said they support food production using plant biotechnology if the technology delivers the abovementioned sustainable benefits. In Japan and South Korea, where local agricultural production is less important at least two thirds of consumers accept the technology in relation to sustainability.

These are important findings as crop biotechnology is considered a way forward to a sustainable food supply to feed the world's escalating population in the coming decades.

CONCLUSIONS

Overall confidence in the safety of the food supply in the surveyed countries was at a positive level with 4 in 5 consumers saying they are neutral or positive about it. Both Chinese and Indian consumers seem to be the most confident with the food safety level in their countries. Koreans are the least confident. Common and most important food safety concern are food poisoning, country of origin, chemical contents and pesticide residues. Food biotechnology is currently much less of a concern when compared to other food safety topics, with the exception of South Korea.

The most important information consumers in Asia look for on food labels is expiry date, followed by food additives, vitamin contents and trans fat (South Korea). When asked about missing information on food labels, answers are country dependant. Food biotechnology is not a consumer labeling demand.

Awareness about biotechnology is low in the surveyed countries and consumer attitudes vary between food producing countries (China, India and the Philippines) and food importing countries (Japan and South Korea). Consumers in the food producing countries strongly believe that food biotechnology will bring benefits in the next few years, while consumers in the food importing countries are rather unsure about the future potential of biotech food.

Consumers in most countries indicated they are positive about the broad range of potential benefits that biotechnology-derived foods can offer, expressed by a high likelihood of buying such products. Japanese consumers indicated a higher resistance to such food and are least likely to purchase.

Although most Asian consumers are not familiar with the concept of 'sustainable food production', once the concept is explained a majority of the consumers believe sustainable food production is important. Asian consumers in food producing countries also largely accept plant biotechnology if the technology contributes to a more sustainable way of producing foods.

The survey underscores the fact that learning about the benefits of biotech foods has a significant impact on consumers' perception and acceptance. Science-based information promoting an understanding of the consumer benefits of biotechnology foods should be communicated to the public, using ease to understand language.

A detailed report per country will be made available shortly.

About Asian Food Information Centre:

Our Mission:

To effectively communicate sound, science-based information on food safety, health and nutrition to media and other key audiences in the Asia region.

Our Organisation:

Founded in 1998 and registered in Singapore, the AFIC team of scientific, health and communications professionals work in close collaboration with the academic and scientific communities in the region to close the gap between scientific understanding and popular consumer perception on a wide range of food and health topics.

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