



# Consumer perceptions of food biotechnology in Asia: 2008 consumer survey

By

**AFIC,  
The Asian Food Information  
Center**



## 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** in a way that promotes **consumer understanding**



December 3, 2009 Hong Kong



## A regional organization

- Founded in 1998 and registered in Singapore, main office located in Bangkok
- Our AFIC team consists of scientific, health and communications professionals working in close collaboration with academic and scientific communities in Asia region.
- Our role is to close the gap between scientific understanding and popular consumer perception on a wide range of food and health topics.





## What we do

- Track and analyse public perception trends through media research
- Deliver balanced perspectives on consumer behavior and perceptions through consumer research
- Provide a consumer and communications perspective to food-health policy
- Provide a science based perspective on issues of the day in language that can be understood by consumers.





# **AFIC consumer attitudes survey**

## **food biotechnology in general and biotechnology-derived nutritionally enhanced foods**





# Consumer survey

- Research scope and objectives
- Methodology
- Key findings
  - Regional perspective
  - Focus on the India
- Summary of conclusions





## Research objectives

- Understand consumer 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
- Understand public awareness and perceptions of food biotechnology
- Measure the extent to which direct consumer benefits of food biotechnology resonate with the public, specifically awareness of benefits such as providing more healthful fats, reducing saturated fat content or creating better tasting food
- Uncover emerging opinions on 'sustainable food production'

# Research methodology

- **Geographical Coverage**

*Food producing/agricultural countries:* China (Beijing), India (New Delhi), Philippines (Manila)

*Food importing countries:* Japan (Tokyo) , South Korea (Seoul)

- **Target respondents** : Consumers of age 18-64 years old

- **Methodology** : Online survey

- **Sample size**

Total of 1007 respondents participated: Beijing, n=200; New Delhi, n=204; Manila, n=200; Tokyo, n=201; Seoul, n=202

- **Data weighing**

Data weighed to reflect the city population; proportional weight was applied covering the following aspects: Gender, Age Group, Household Income, Education level

- **Field work dates:** Jul/Aug 2008

\*research information by The Nielsen Company





# Key findings

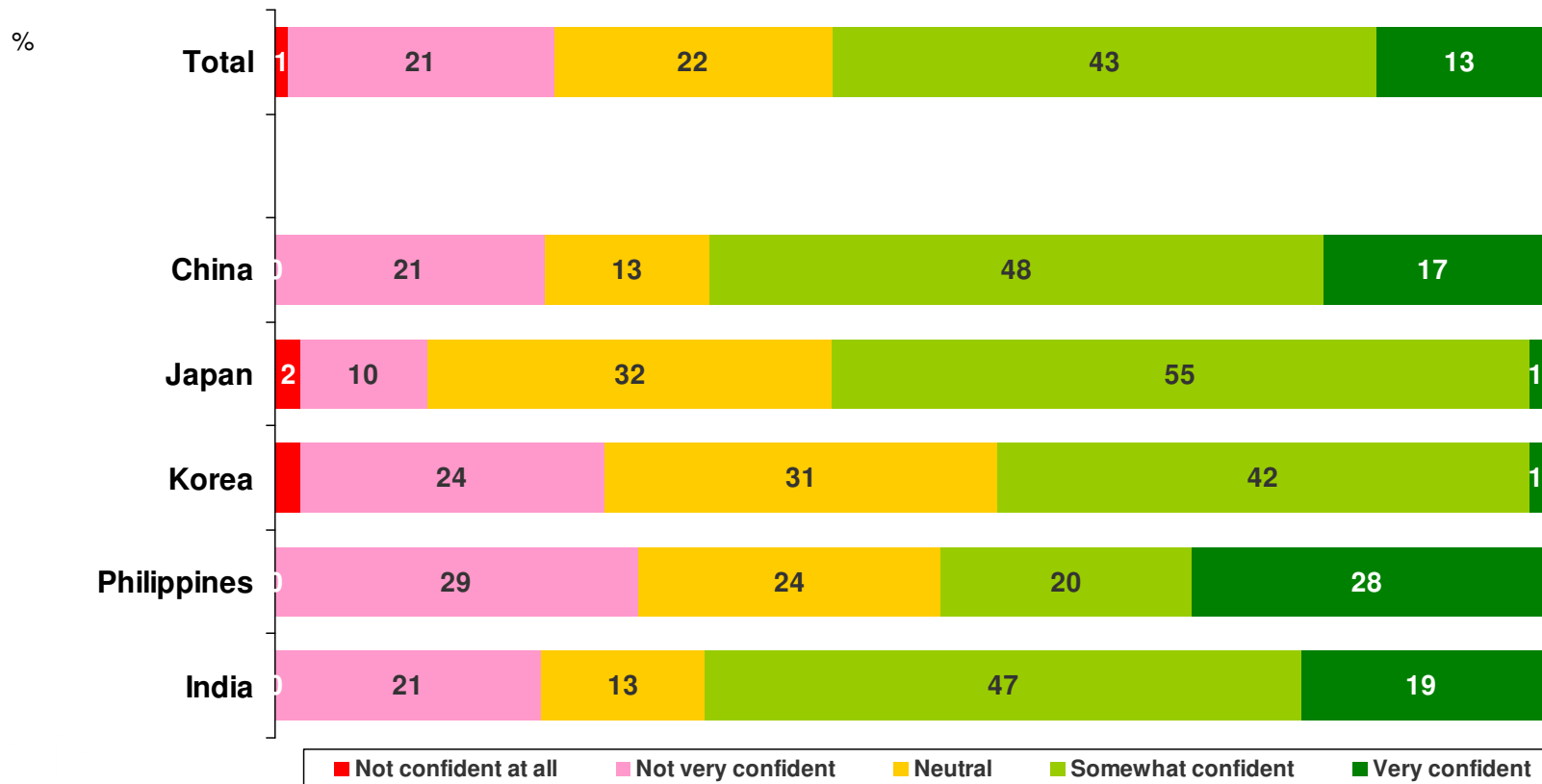
**general consumer attitudes towards  
food safety and food labeling**



**Region:** 4 out of 5 consumers are neutral or confident in safety of food supply  
**India:** consumers are generally confident with the food safety level with one in 5 consumers saying to be 'very confident'

**Note:** the survey has been conducted in July/August, 2008

**Confidence Level about Food Safety in Respective Country**



Base: All (n=1007)

Ref: Q14 When talking about food safety, how confident are you with the food safety level for consumption in your country?

\*research information by The Nielsen Company

Food safety concerns crossing consumers' mind are country- dependant. Accuracy of food labeling is critical to increase confidence level in food safety. GM food is not top of mind with consumers.

Spontaneous food safety concerns	n=	China	Japan	South Korea	Philippines	India
		200	201	202	200	204
		%	%	%	%	%
Deceptive Labeling		19	58	31	20	19
Hygiene		0	0	0	15	19
Chemical/artificial ingredients		11	0	5	12	2
Benefits of the food		2	0	0	24	4
Used of low quality ingredients		6	0	1	7	15
Constant worried about food safe for consumption		8	0	3	14	3
The actual process in producing the food		7	5	11	2	0
Used of ingredients with side effects		2	12	6	2	1
Process, preparation		0	0	0	15	6
Diseases Nett		0	0	14	7	0
Packaging		0	0	0	3	10
Ingredients, contents		0	0	0	9	4
Contaminated food (ie. Meat, fish)		2	0	0	7	2
<b>GM Food</b>		0	2	6	0	0
Agriculture Chemical Residual in food		2	5	1	0	0
Guidelines from Government/FDA is not strict enough		3	0	5	0	0
Counterfeit products		7	0	0	0	0
No endorsement from the relevant ministry		3	0	0	2	3
Place of origin		0	0	0	7	0
Weak inspection from Government		0	3	2	0	1
Safety of Imported Food Products Nett		0	6	1	0	0
Unethical Manufacturer		0	2	3	0	0
None		19	13	9	0	24

Base: All (n=1007)

Ref: Q15 What, if anything are you concerned about when it comes to food safety?

\*research information by The Nielsen Company

**India:** At the prompted level, pesticide residue, food poisoning, food from unknown source and improper handling of food top the list.

**Prompted food safety concerns, mean score**

	South Korea	China	India	Japan	Philippines
food poisoning	4.1	4.3	4.3	4.3	4.7
pesticide residues	4.1	4.3	4.4	4.3	4.7
food from unknown source	4.4	4	4.3	4.3	4.6
additives	4.1	4.2	4	4	4.5
transferable animal disease	4.1	4.3	3.9	4.3	4.5
improper handling of food	3.9	3.9	4.3	4.1	4.7
info on packaging	3.6	4	4.3	3.9	4.6
antibiotics or hormones	4.1	4	3.8	4	4.6
nutrition level	3.8	4.1	4.2	3.7	4.6
<u>GMO</u>	4.3	3.8	3.8	3.7	4.1
irradiated food	3.9	3.9	3.7	3.5	4.1
calorie consumed	3.4	3.3	3.6	3.5	3.9

Base: All (n=1007)

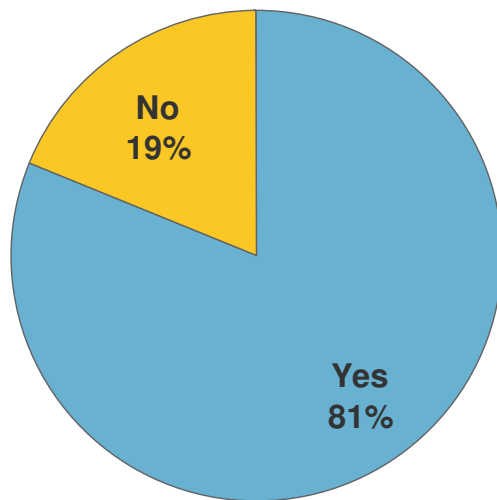
Figures above indicate the average score from a rating scale of 1 to 5, where 1 is Not Concern at all and 5 is Very Concern

Ref: Q16 Please tell me how much of a concern <this attribute> is to you when thinking about food safety in your country?

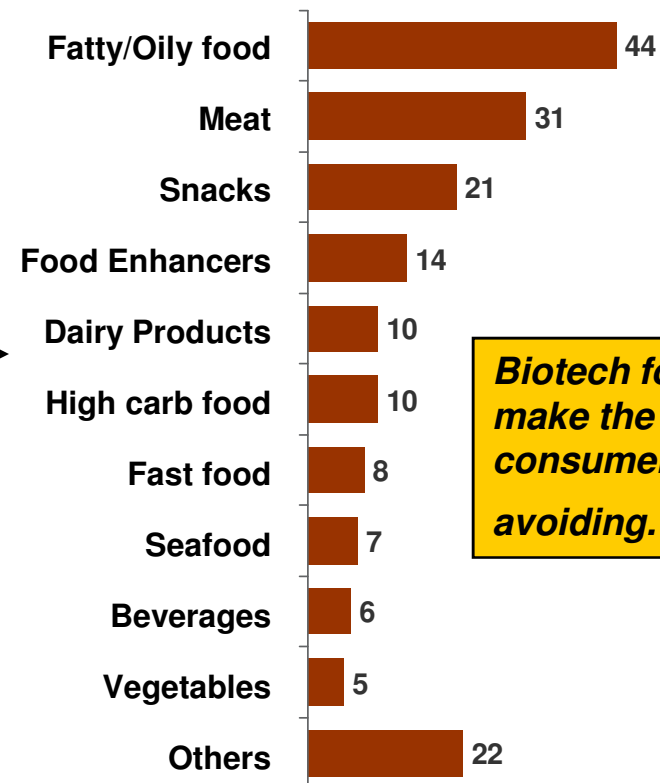
\*research information by The Nielsen Company

**India:** consumers seem to be alert on the food they consume with 4 in 5 claiming to avoid or eat less of certain foods: fatty/oily food ranks highest on the list of foods consumers avoid

Incidence of Avoiding any food/ingredients



Food avoid or eaten less : India



***Biotech foods do not make the list of things consumers in India are avoiding.***

Base: All (n=204)

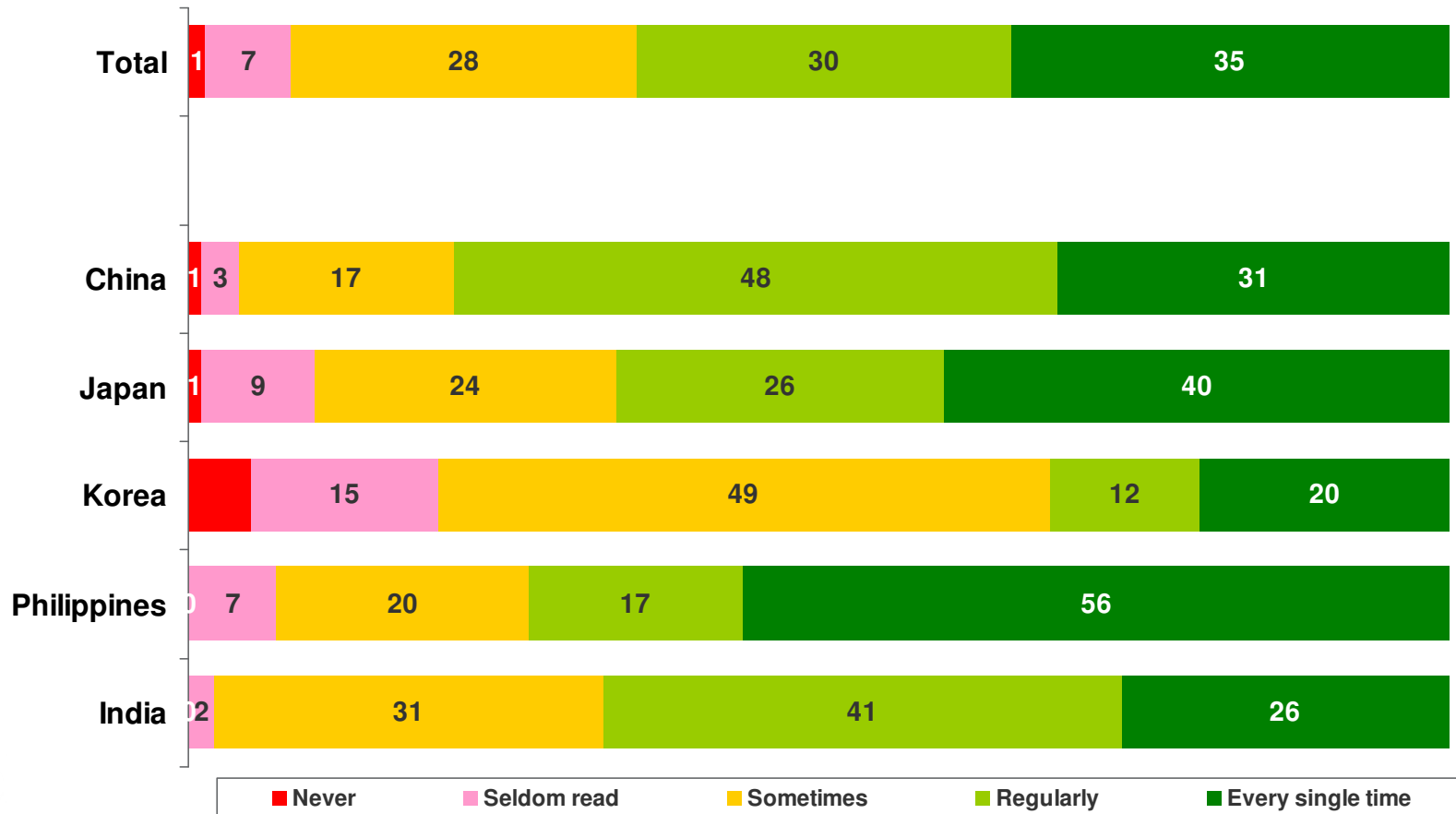
Ref: Q7 Thinking about your diet (daily food consumption) over the past few months, are

there any foods or ingredients that you have avoided or eaten less of?

\*research information by The Nielsen Company

**Region:** on average, two thirds of consumers say to read labels at least regularly  
**India:** reading food labels seem to be standard practice, only 2% of consumers say they seldom read the labels

Claimed attention to labeling on food product

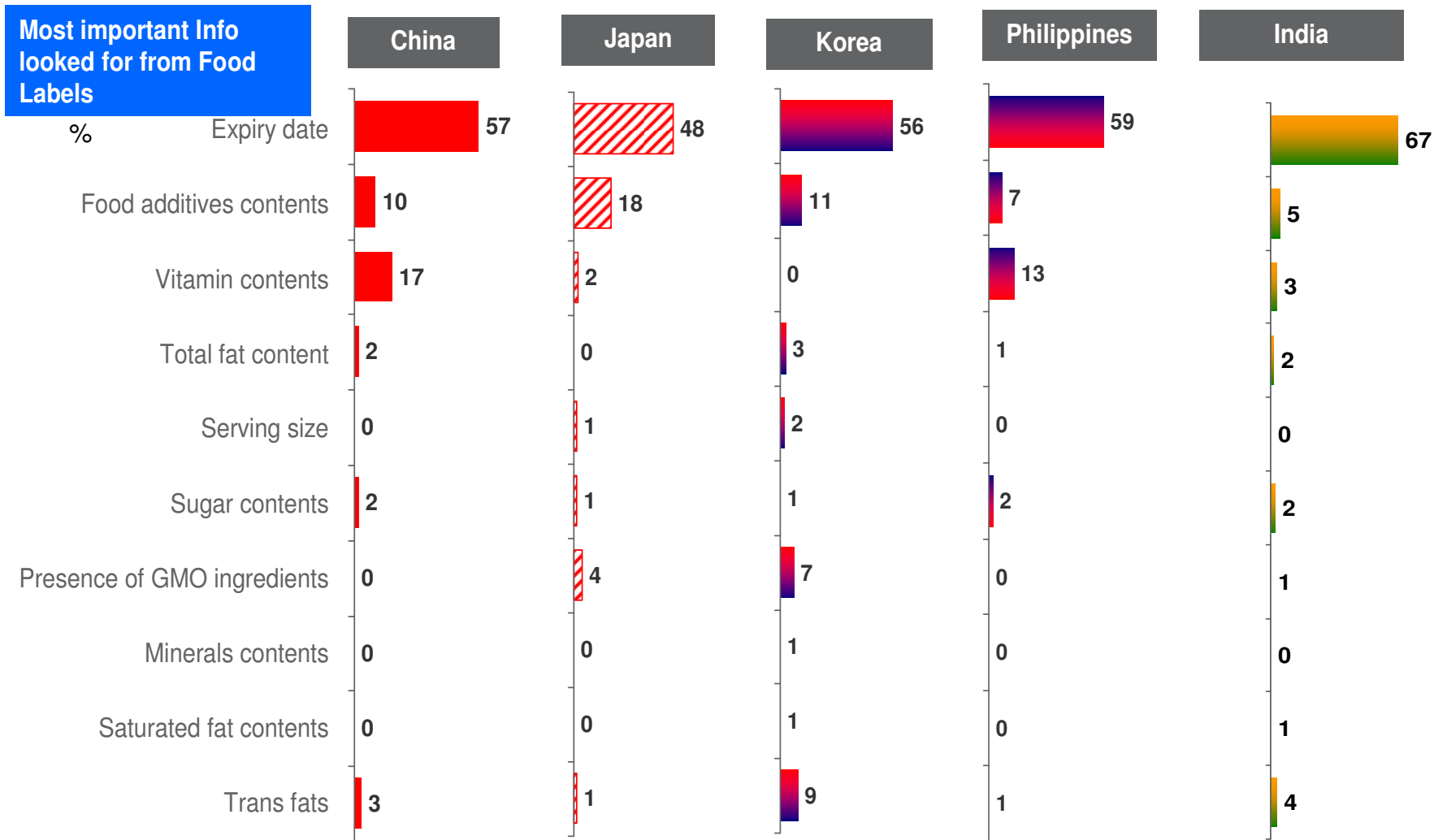


Base: All (n=1007)

Ref: Q9 When talking about labeling on food products, which of the following best describe you in reading these labels when purchasing a food or beverage product?

\*research information by The Nielsen Company

Expiry data is 'most important' information looked for in all countries, followed by food additives, vitamin contents and trans fat (Korea, India). Less important, but also mentioned by consumers in Japan, Korea and India, is GMO.



Base: Those EVER read food labels (n=992)

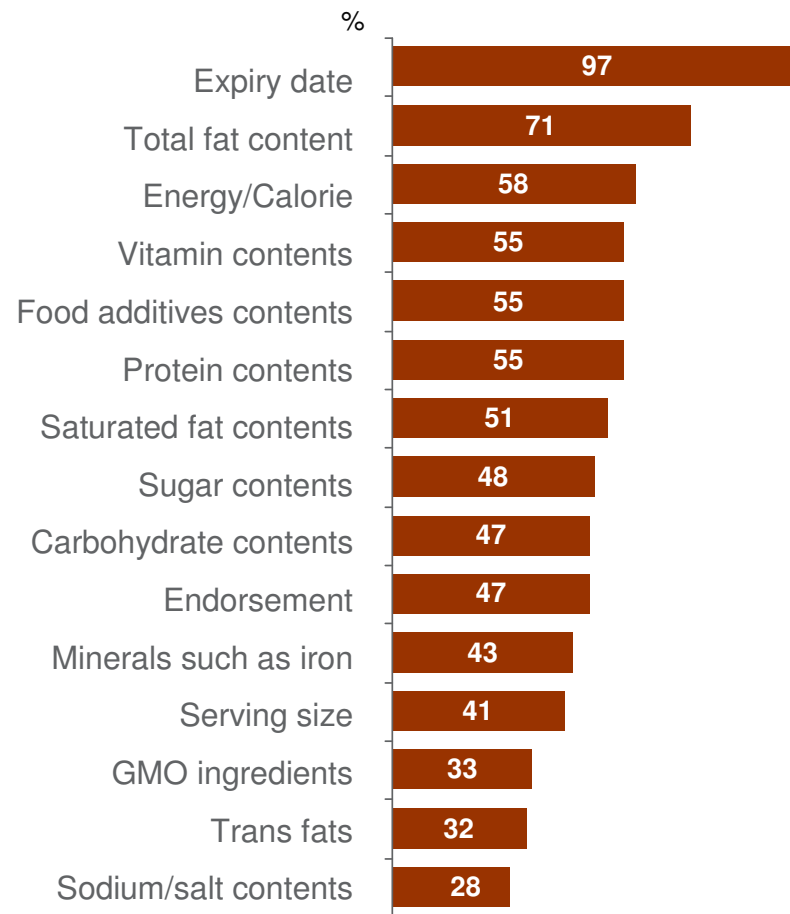
Ref: Q11b Which of this info that you look for do you consider to be the most important to you nowadays?

\* research information by The Nielsen Company



**India:** Expiration date, as well as total fat content and calorie content are the most common items consumers look for on food labels.

**Info normally looked for on food labels (India)**



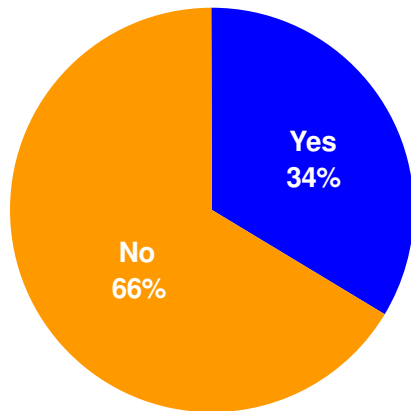
Base: Those EVER read food labels (n=204)  
Ref: Q11a What information on these food labels do you normally look for?

\*research information by The Nielsen Company

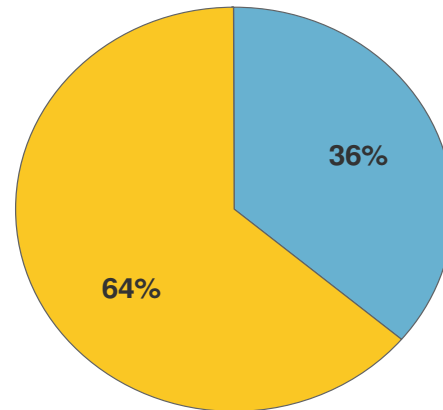


**Region:** on average, two thirds of consumers are satisfied with existing labels  
**India:** 68% of the consumers are satisfied with the current information on food labels

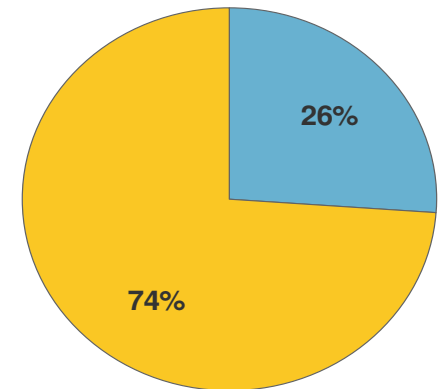
Information lacking on food labels?



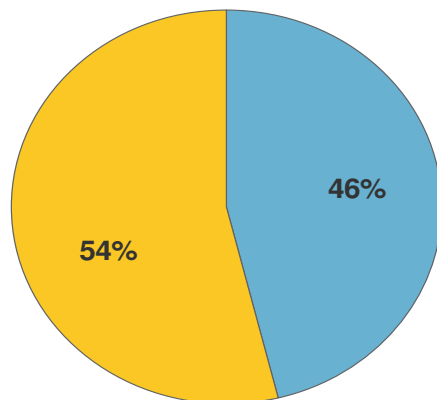
Japan



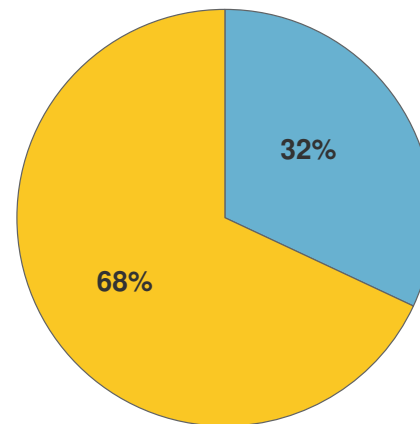
Korea



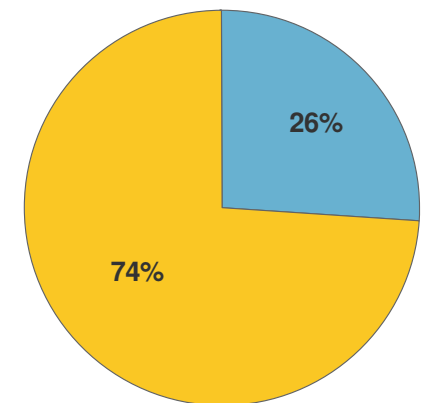
China



India



Philippines



■ Yes  
 ■ No

Base: All (n=1007)

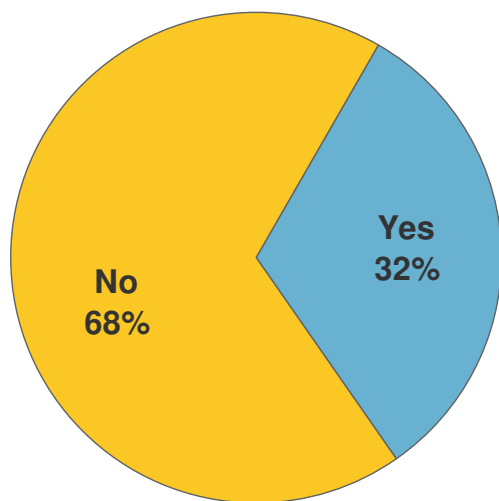
Ref: Q12 Is there any information you seek that is currently not available on the food labels in the food or beverage you normally purchase?

\*research information by The Nielsen Company



**India:** consumers not satisfied with the existing info on labels mainly want additional information about the content (basic ingredients).

**Info lacking on food label (India)**



	%
Contents	53
Side Effects	13
Expiry/Production date	11
Cost/Pricing	8
Advice on consumption	6
Actual process	4
Benefits	4
Quality level	4
Manufacturer	2
Other	4

***None of the Indian respondents suggested presence of GM ingredients as an additional item to be included on food labels***

Base: Those who claimed of having info not available on food labels (n=58)  
Ref: Q13 Please tell us what is the information you seek that is not available on the food labels

\* research information by The Nielsen Company

## Conclusions: Food Safety/Labeling

- Consumers *in general* are rather confident with the food safety level in the country. In *India*, 68% of the consumers were very confident or somewhat confident in the safety of the food supply.
- GM food is not a top of mind food safety concern with consumers in the surveyed countries.
- At the prompted level, most important food safety concerns for *Indian* consumers are pesticide residues, food poisoning, food from unknown source and improper handling of food. Food biotechnology is much less of a concern compared to other food safety issues.
- Reading food labels is the norm in *India* and 68% of the consumers are satisfied with the provided information on food labels. Expiry date is by far the most important information looked for on food labels.
- Food biotechnology is not a spontaneous consumer labeling demand.
- *Indian* consumers pay attention to the food they consume, with 81% of respondents mentioning they recently avoided certain foods. Fatty food tops the list of items avoided. 71% of consumers also regularly check for the fat content on food labels. The rising obesity trend in the country may partly explain consumer awareness about fat content .



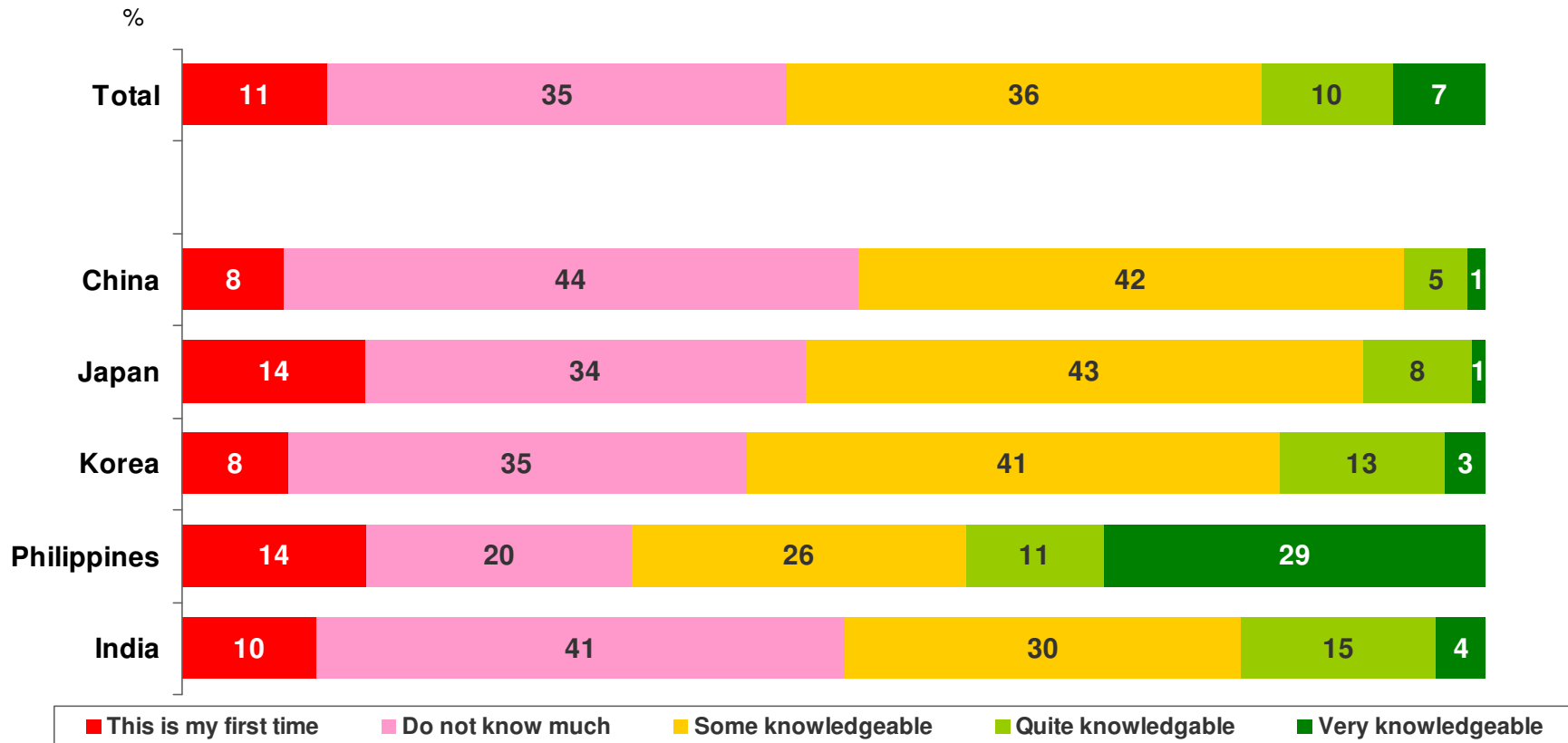
# Key findings

**Consumer awareness and attitudes towards food biotechnology in general**



**Region:** more than half of the consumers claim to have at least some knowledge  
**India:** knowledge levels are slightly lower compared to the average for the region, half of the consumers say they have limited/no knowledge.

Consumer knowledge on biotech food

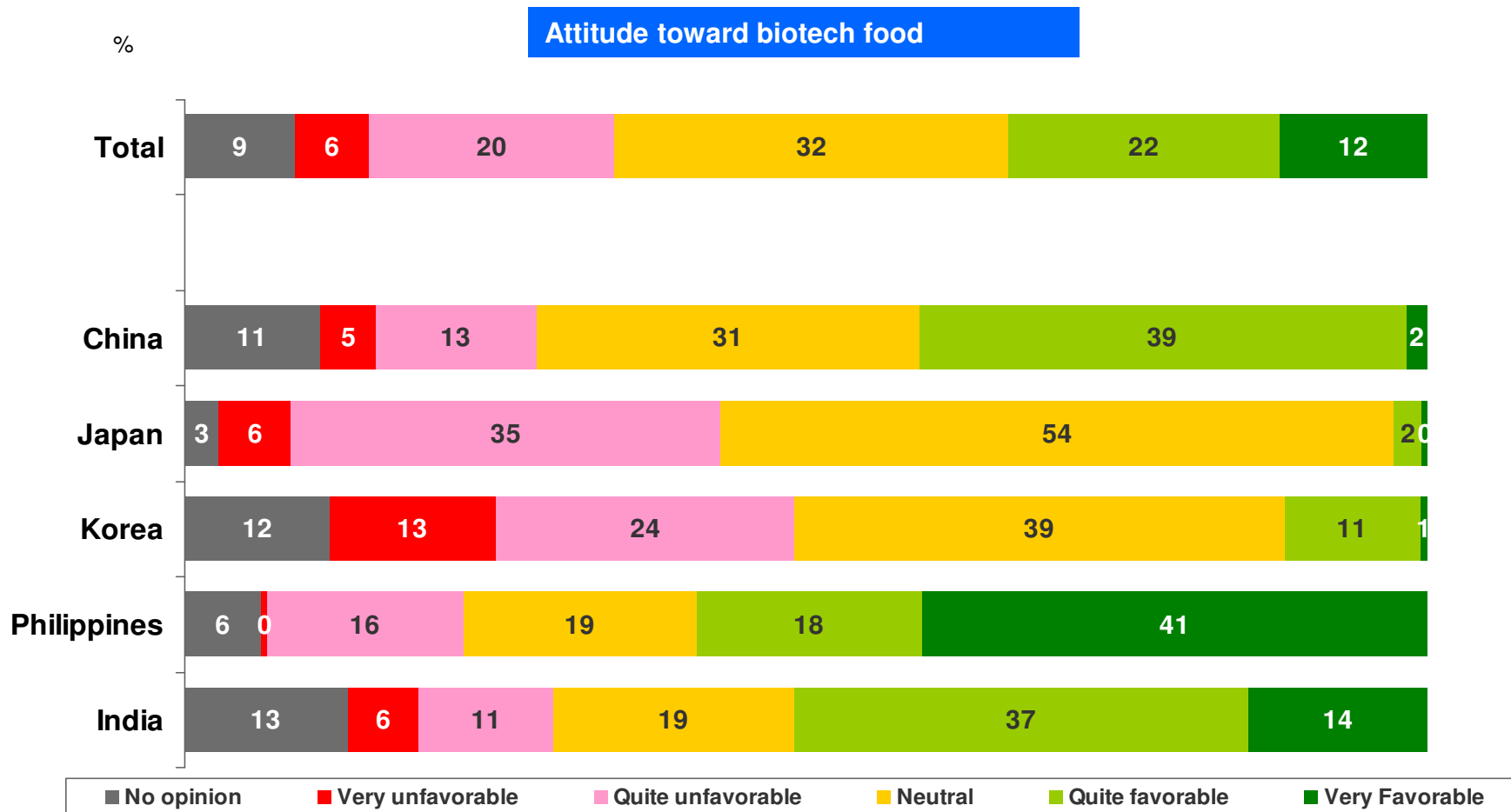


Today we have learned ways to improve plants and animals much faster and more precisely. We can also take the good qualities from one plant and transfer them to another. This technology is called "biotechnology" and one of the tools used is called "genetic modification". Plants or other organisms that have been improved in this way are called "genetically modified", or GMO (this means "genetically modified organism").

Base: All (n=1007)  
 Ref: Q19 How familiar are you with this subject (Biotechnology Food)?

\* research information by The Nielsen Company

**Region:** consumers in countries where agriculture is important (China, Philippines and India) are more positive towards biotech food compared to consumers in food importing countries (Japan and Korea).



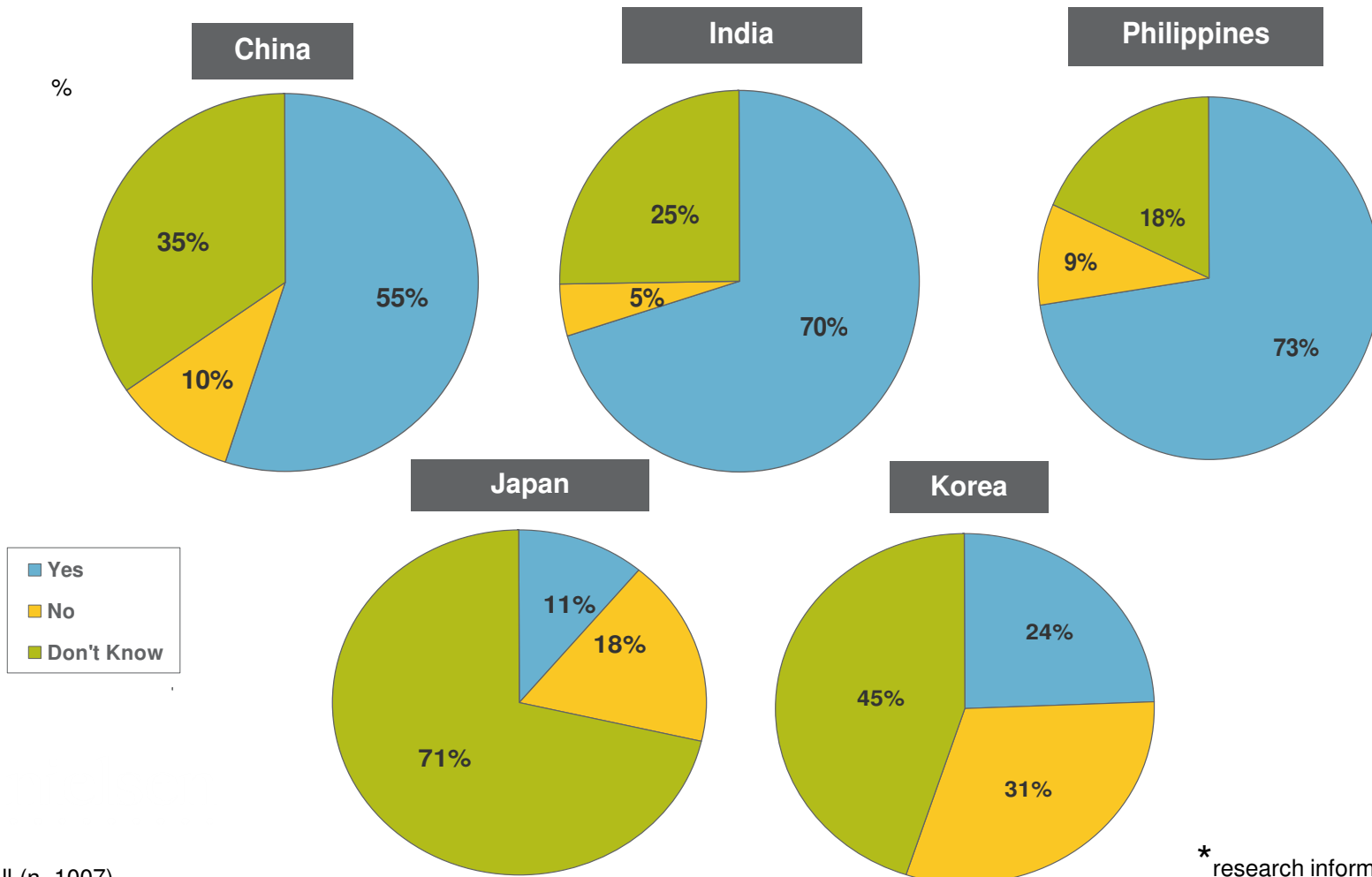
Base: All (n=1007)

Ref: Q20 What is your overall impression of using biotechnology as we have mentioned earlier with crop plants that produce food products?

\* research information by The Nielsen Company

**Region:** consumers in agricultural countries strongly believe that food biotechnology will bring benefits, consumers in food importing countries are unsure about potential benefits

Perceived benefits of food biotechnology in the next 5Y



Base: All (n=1007)

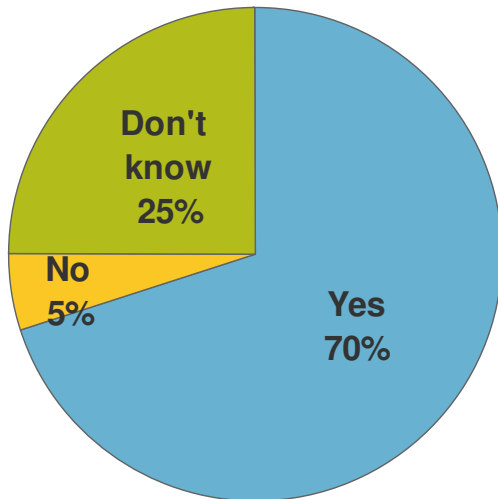
Ref: Q26 , do you feel that food biotechnology will provide benefits for you and your family within the next five years?

\* research information by The Nielsen Company



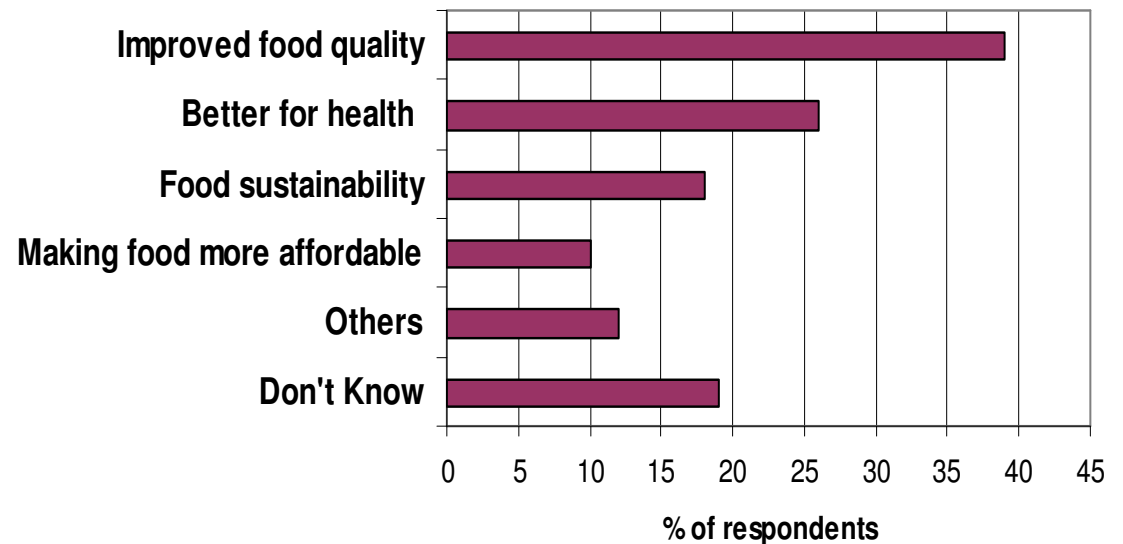
**India:** key expected benefits are improved food quality and healthier foods

**Perceived benefits of food biotechnology in the next 5Y**



Base: All (n=204)  
Ref: Q26 , do you feel that food biotechnology will provide benefits for you and your family within the next five years?

**Perceived benefits (spontaneous)**



Base: those who perceived food biotech provide benefits to family in Next 5 Years  
Ref: Q27 Please tell us what benefits would be.

\* research information by The Nielsen Company





## Conclusions: Food biotechnology in general

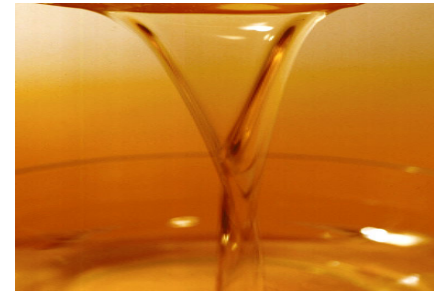
- *On average*, about 50% of consumers say they have at least some knowledge about biotechnology.
- Knowledge may positively influence consumer attitudes (the *Philippine* case).
- Consumers in *India* have an overall positive attitude towards food biotechnology, despite the many anti-GM campaigns gaining momentum in the country:
  - 70% of consumers have a neutral or favorable impression of using biotechnology to produce foods
  - 70% of respondents expects benefits from food biotechnology
- Consumer perceptions about food biotechnology show two different patterns. Consumers in food producing countries (*Philippines: 73%; India: 70%; China: 55%*) strongly believe food biotechnology will bring benefits. Consumers in food importing countries (*Japan, Korea*) are unsure about the benefits



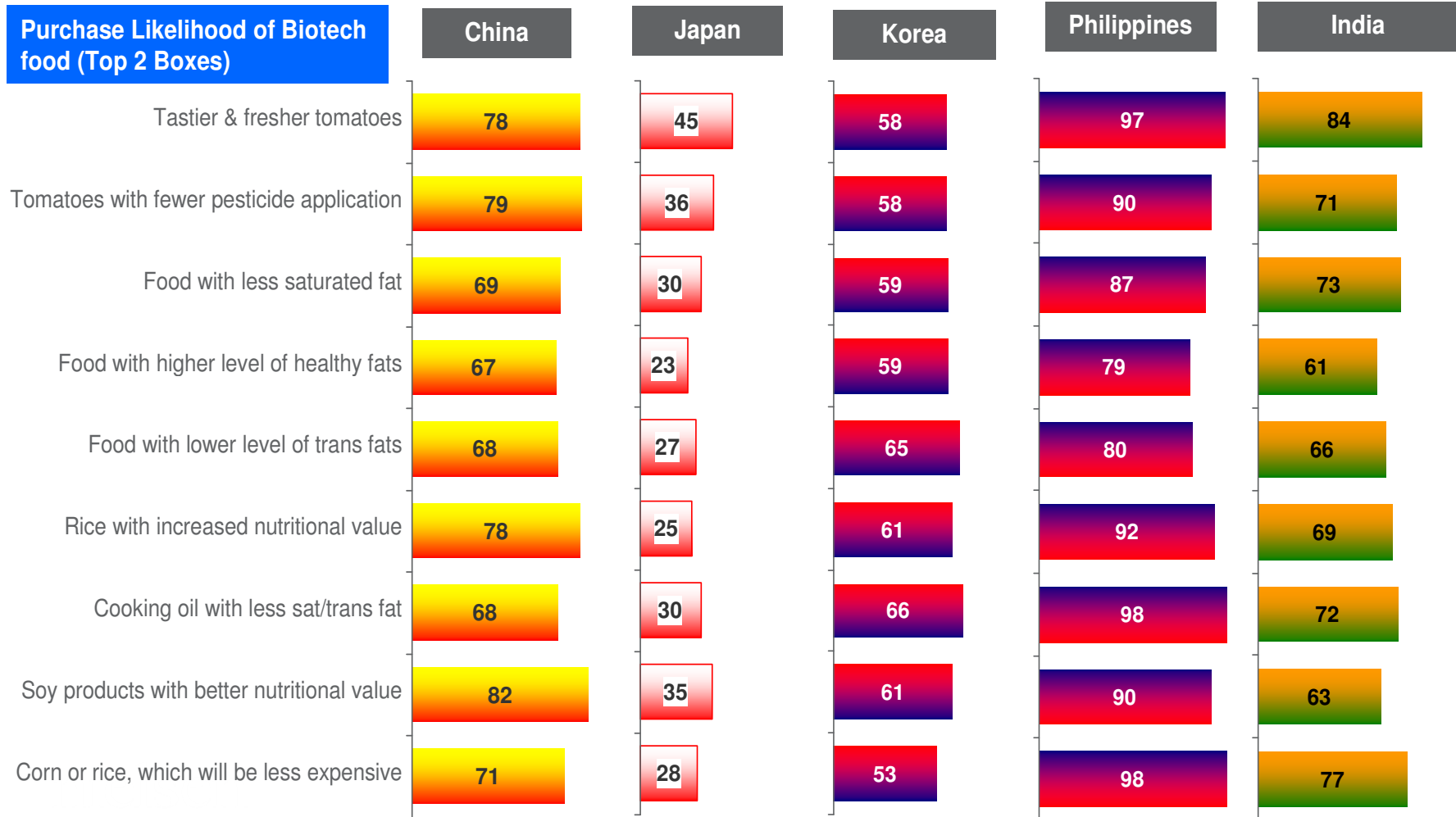
# Key findings

## Consumer attitudes towards 'direct consumer benefits' of food biotechnology

- nutritious foods
- food sustainability



**Region:** consumers in China, India and Philippines express high likelihood of purchasing biotech-derived foods. Consumers in Japan are least likely to purchase. Preferred benefits are country-dependent.



Base:All (n=1007)

Ref: Q28 How likely are you to buy the following food products that have been produced using biotechnology with the stated benefits, assuming all things remain the same, such as the size, the color or even the price?

\* research information by The Nielsen Company

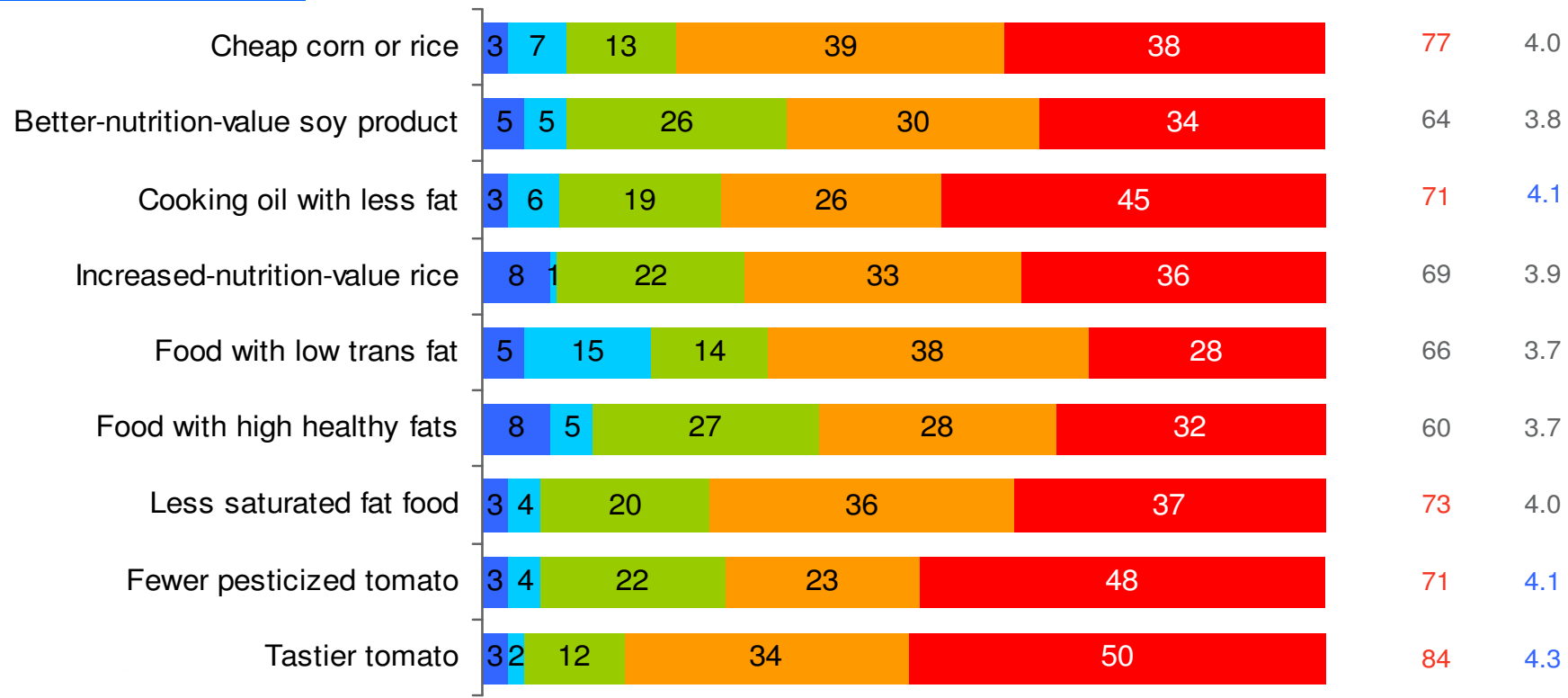


**India:** A majority of consumers would be ready to purchase foods produced through biotechnology for specific benefits. Preferred benefits: tastier food, cheaper food staples, foods/cooking oil with healthier fat profile

**Purchase Likelihood of selected Biotech food**



Top 2 Box Mean Score



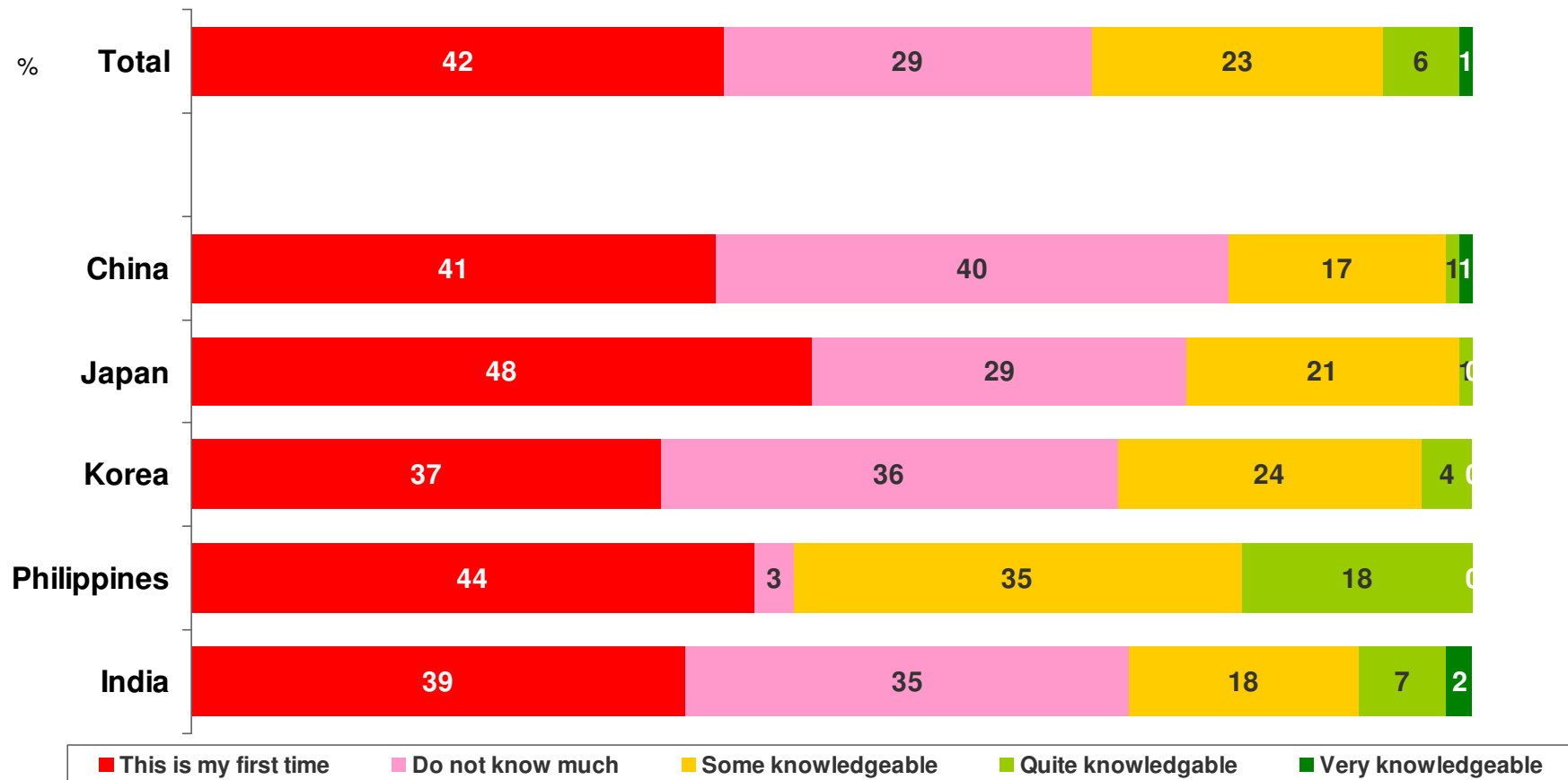
Base: All (n=204)

Ref: Q28 How likely are you to buy the following food products that have been produced using biotechnology with the stated benefits, assuming all things remain the same, such as the size, the color or even the price?

\* research information by The Nielsen Company



**Region:** More than half of the consumers said they did not know the term 'Sustainable Food Production' with many saying they heard it for the first time with this survey.



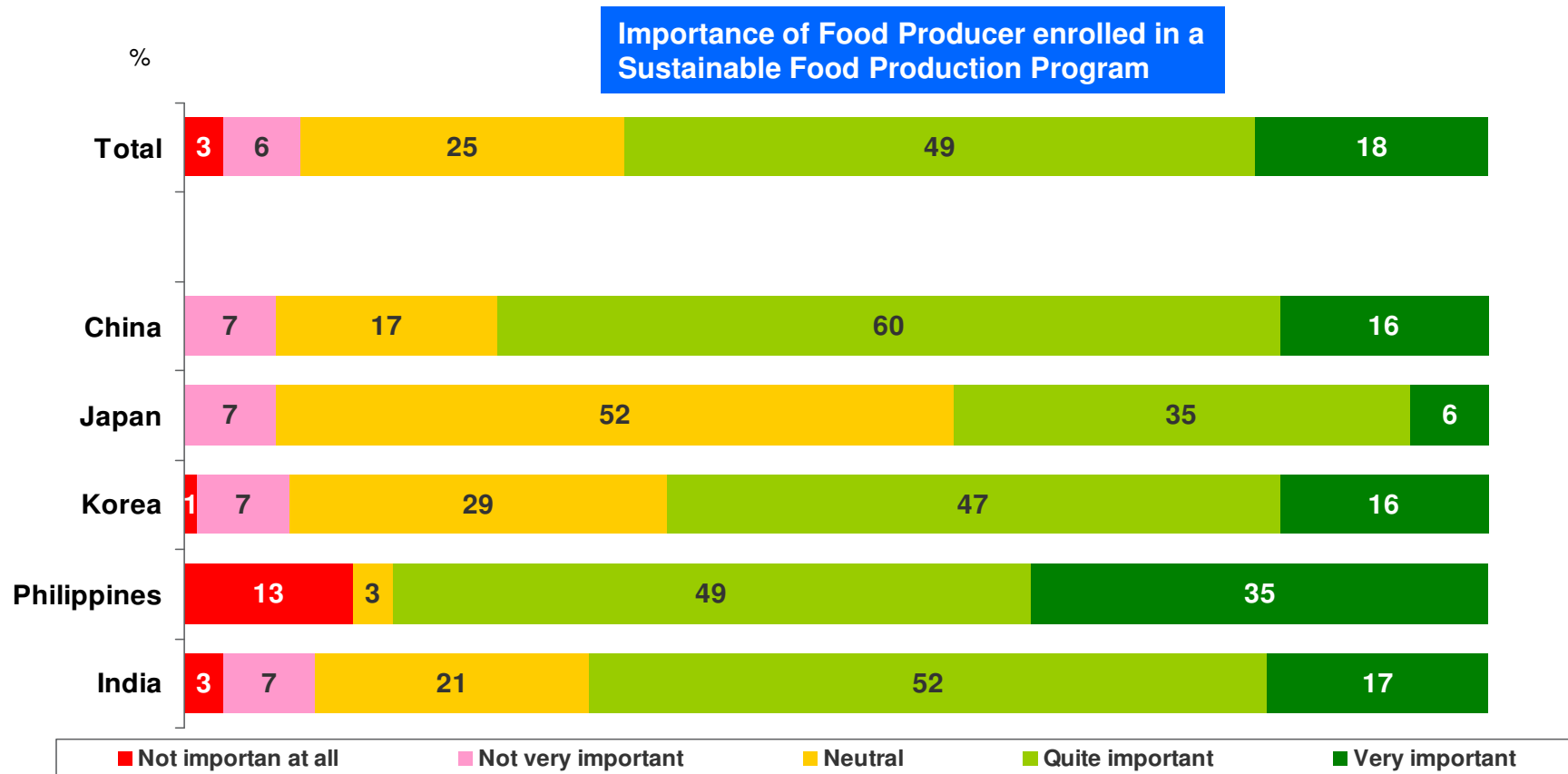
Base: All (n=1007)

Ref: Q36 How much have you read or heard about the concept of sustainable food production?

\* research information by The Nielsen Company

**Region:** Except for Japan, a majority of the consumers believe sustainable food production is important.

**India:** 7 out of 10 of consumers find the concept of ‘sustainable food production’ important



Sustainable food production is defined as the food producer grew the food with less inputs/resources like water, fertilizer, pesticide or land to minimize the impact on the environment.

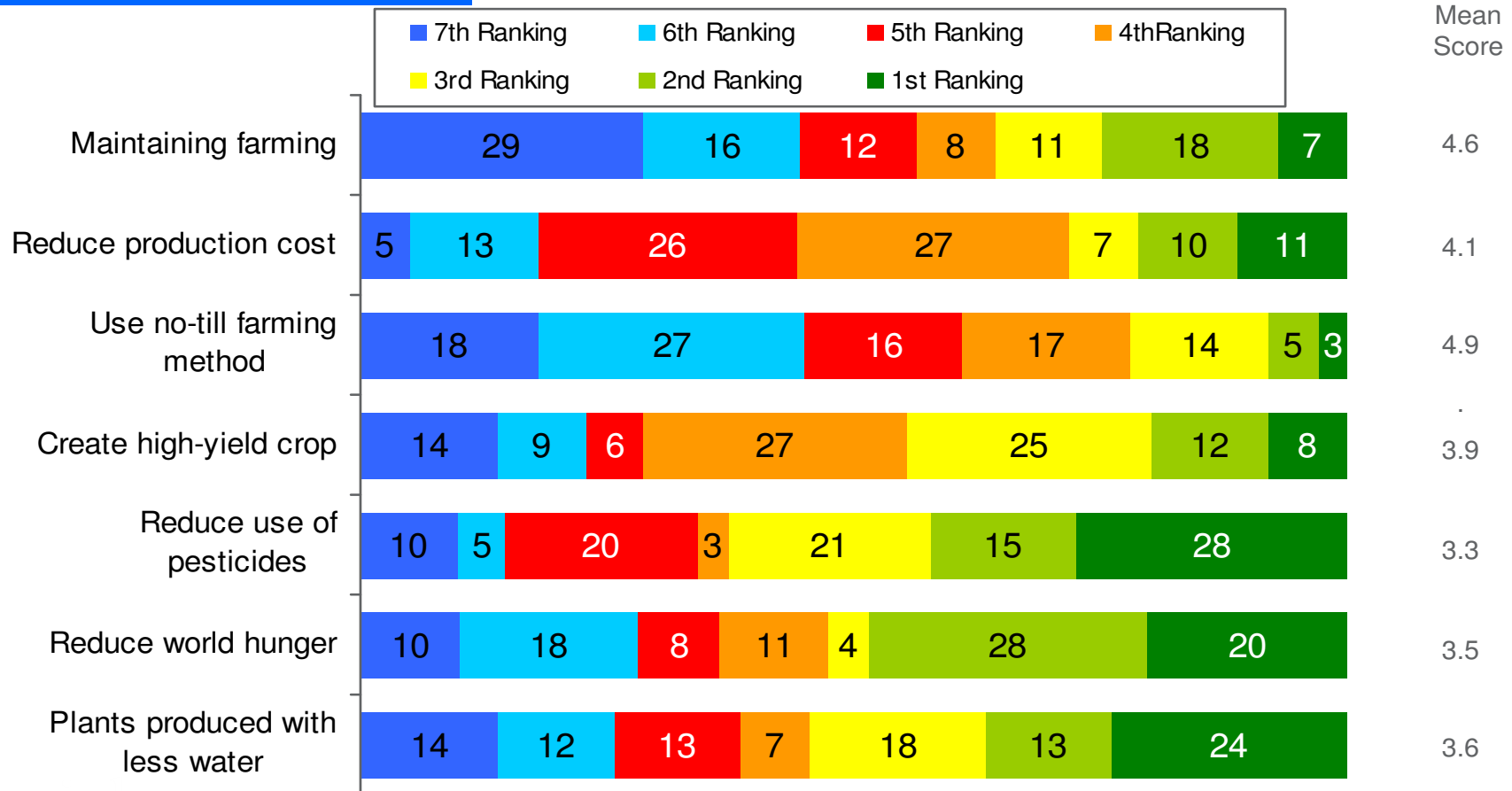
Base: All (n=1007)

Ref: Q38 How important is it to you that the food products you purchase come from a food producer that is enrolled in a scientifically validated sustainable food production program?

\* research information by The Nielsen Company

**India:** consumers rated 'reducing the amount of pesticides needed to produce food' followed by 'increasing the production of food staples in the world, thereby reducing world hunger' as the most important crop growing factors related to sustainable food production.

**Ranking of factors in relation to 'sustainable food production': India**



Base: All (n=204)

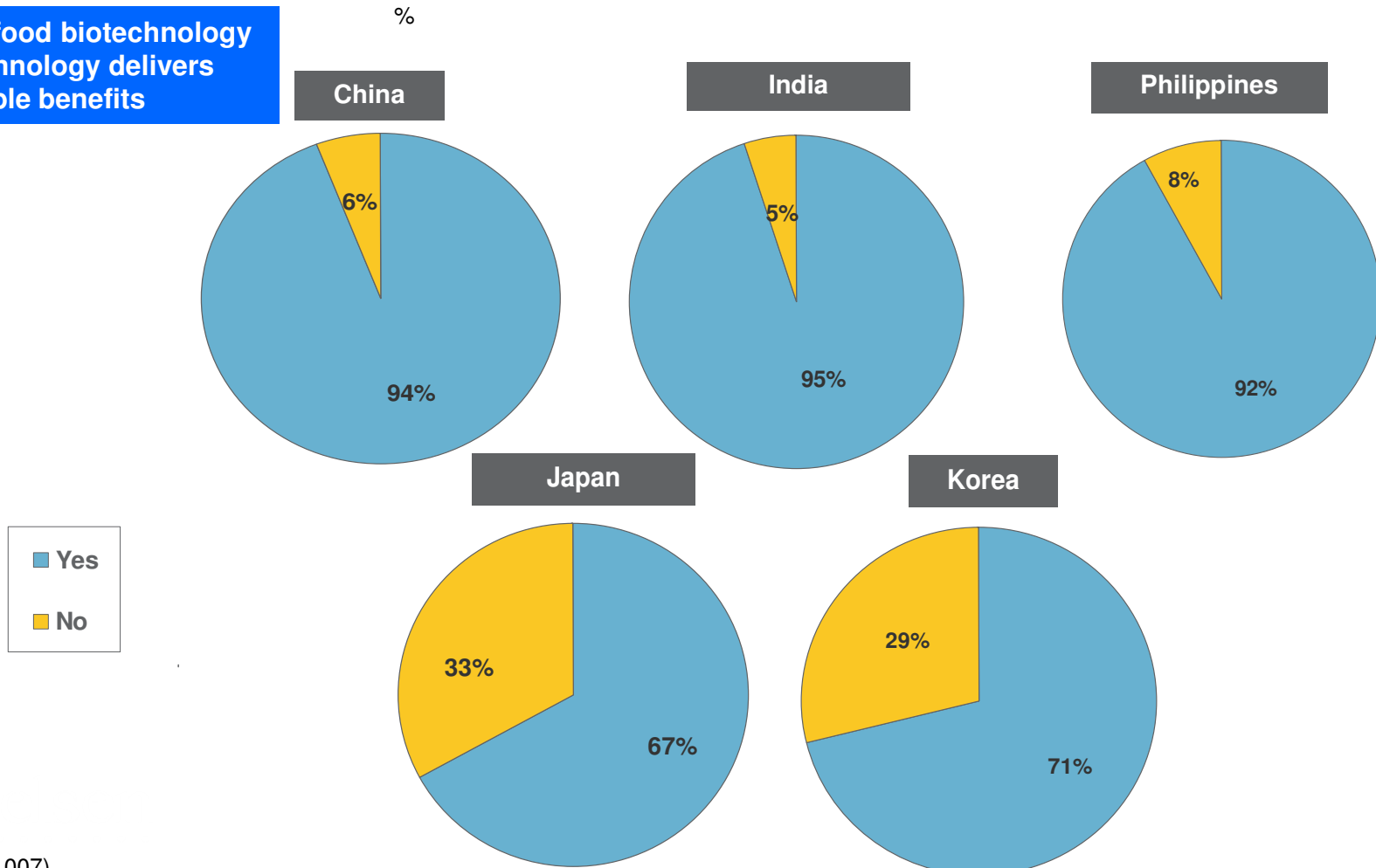
Ref: Q39 Please rank the following seven factors related to sustainable food production in order of importance to you

\* research information by The Nielsen Company



**Region:** Asian consumers largely accept food biotechnology if the technology contributes to a more sustainable way of producing foods.

Support food biotechnology if the technology delivers sustainable benefits



Base: All (n=1007)

Ref: Q40 If foods produced through plant biotechnology were able to produce sustainable benefits, would you support the use of biotechnology?

\* research information by The Nielsen Company





## Conclusions: Direct consumer benefits of food biotechnology

- Consumers in *China*, *India* and the *Philippines* are positive about the broad range of potential benefits biotech-derived foods can bring, expressed by a high likelihood of buying such foods. Consumers in *Korea* are relatively positive, while consumers in *Japan* are least likely to buy biotech foods.
- Most popular benefits are country dependant. *Indian* consumers favor tastier food, cheaper food staples and foods/cooking oil with a healthier fat profile produced through biotechnology.
- A majority of consumers in the *surveyed countries* believe sustainable food production is important. *Indian* consumers rated 'reducing the amount of pesticides needed to produce food' followed by 'increasing the production of food staples in the world, thereby reducing world hunger' as the most important crop growing factors related to sustainable food production.
- *Overall*, consumers in *Asia* accept plant biotechnology if it contributes to a more sustainable way of producing foods. Almost all consumers in *India* (95%) support plant biotechnology if the technology is related to sustainable food production.



## Overall conclusions:

- **Food biotechnology is not a priority food safety concern in the broader context of food safety issues. Presence of GM ingredients is not a spontaneous labeling demand.**
- **Among the surveyed countries, there are two distinct patterns in attitudes and perception towards food biotechnology.**
  - **Consumers in China, India and Philippines (the food production countries) are neutral to favorable and largely expect benefits**
  - **Consumers in Japan, Korea (the food importing countries) are less favorable and are unsure about benefits.**
- **Consumers expressed a high likelihood of buying products produced through biotechnology that have potential benefits, with the exception for Japan.**
- **The support for food biotechnology in relation to ‘sustainable food production’ is high, even in Japan and Korea where consumers expressed reluctance towards the technology and its benefits**



For more information visit

[www.afic.org](http://www.afic.org)

Copyright © Asian Food Information Centre 2008

