



GENERATION Z'S ATTITUDES TOWARDS SUSTAINABLE PROTEIN IN CHINA

Could China's Generation Z nudge the country's
meat industry towards sustainable protein?



Source Adobe Stock

The Chinese food industry has evolved in recent years, with plant-based food launches becoming more regular and significant progress taking place with the research and development of cultivated meat. Growing consumer demand is a key factor driving this evolution and expanding China's blossoming alternative-protein industry.

At the same time, the world is seeing multiple urgent crises. As the production of animal protein continues to expand, food security and safety is at risk, human health and nutrition are declining, and climate disasters are becoming more prominent

Consumers are beginning to realise that plant-based foods, which represent an alternative option to animal-based products in terms of nutrition, taste, and experience, are effective in alleviating many of the problems associated with our current food system.

With all this in mind, could sustainable proteins soon become a mainstream feature on the tables of Chinese consumers?

As an expert in the plant-based space, ProVeg sought to further investigate this question. And so, in April of this year, ProVeg China looked to the country's Generation-Z population (people born between 1995 and 2010) for answers.

This report looks at the results of ProVeg China's recent survey exploring the attitudes of Generation Z toward sustainable protein.



The Significance of Generation Z

Although Gen-Z in China accounts for less than 20% of the total population – at 264 million, their consumption already accounts for 40% of new consumer products in the country.

Additionally, in the next 10 years, 73% of the Gen-Z population will become newcomers to the workplace – earning money and making purchasing decisions, with data predicting that overall consumption will increase by four times, to 16 trillion yuen (2 trillion euros), by 2035.

Consequently, Gen-Z members will constitute the core consumer base of the Chinese consumer market of the future, while it is also the key force affecting social change in the country. As such, the future of China's alt-protein sector and the extent to which the country shifts towards sustainable protein consumption will largely depend on the uptake of Gen-Z.

Research methodology

In April 2023, ProVeg conducted a survey of 1,024 consumers. Respondents were between the ages of 19 and 28 years, had a college degree or higher, and resided in Beijing, Shanghai, or Guangzhou. Respondents included students and employed and unemployed graduates.

Of the total participants, 499 were men and 525 were women, with an almost even split between the three cities.

Quantitative online questionnaires were used to evaluate sustainable proteins in terms of three aspects – market recognition, purchase intention, and price perception.

ARRANGEMENTS FOR IMPLEMENTATION

- Method of implementation: Quantitative Survey Questions (online)
- Time of Survey: March 2023

SAMPLE SIZE

- Base = 1024

RESPONDENTS

- Population aged 19-28 in cities such as Beijing Shanghai and Guangzhou, with a collage degree or above
- Including school students and employees (including those who have graduated but are unemployed)

QUOTA DISTRIBUTION

Gender	Sampling distribution
Male	499
Female	525

City	Sampling distribution
Beijing	355
Shanghai	306
Guangzhou	306

City	Sampling distribution
Not graduated (student)	511
Graduated but unemployed	513
Employed	

Research findings

Gen-Z's dietary preferences

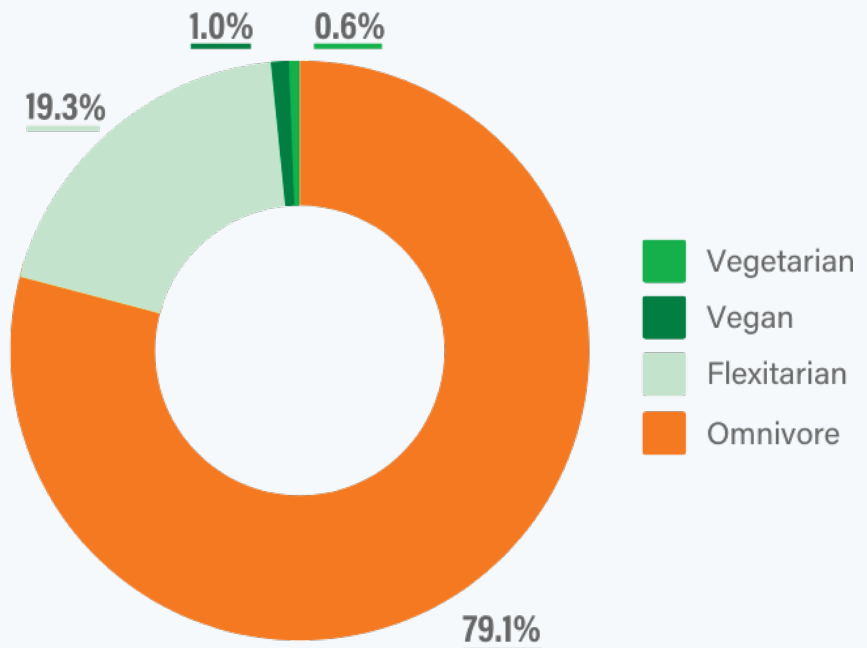
Nearly 20% of Chinese Gen-Z consumers are flexitarian

The survey found that 19.3% of respondents are flexitarian (consume plant-based foods/meals a few times a week), 79.1% are omnivores, 1.0% are vegetarian (consume eggs and milk) and 0.6% are vegan (do not consume any animal products). These results are comparable with those from a similar survey in the United States, which found that 24% of Gen-Z consumers are flexitarian.¹

GEN Z'S DIET BEHAVIOR IN CHINA

19.3%

of Gen-Z members are flexitarian



April 2023
Base: 1024 aged 19-28 with college and above education, in Beijing, Shanghai, and Guangzhou



Source Shutterstock

1. IRI Panel, Total U.S. All Outlet, 52 Weeks ending 11-03-19, NBD Aligned; Acosta Custom Shopper Survey, 2018; OnePoll, n=2000, 2019. Available at: <https://gfi.org/resource/consumer-insights/>. Accessed 2023-05-31.

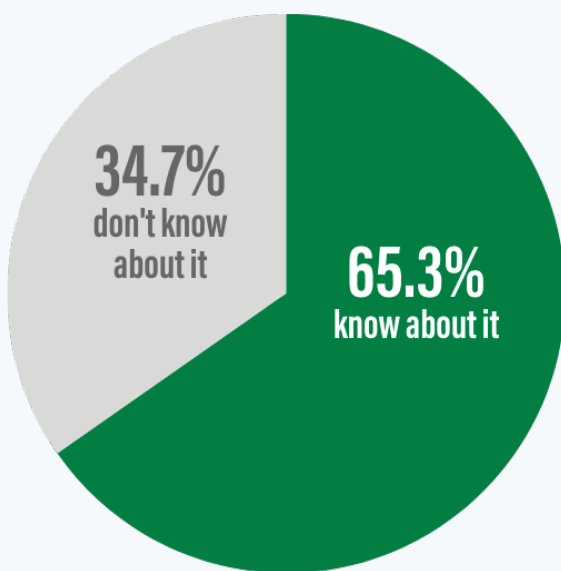
Plant-based meat

Recognition and awareness of plant-based meat

To kick off the survey questions, ProVeg China wanted to establish the recognition and consumption rates of plant-based meat among Gen-Z members in China. The survey discovered that over half (65.3%) of young consumers are aware of and have some knowledge of plant-based meat, which bodes well for the future of the sector.

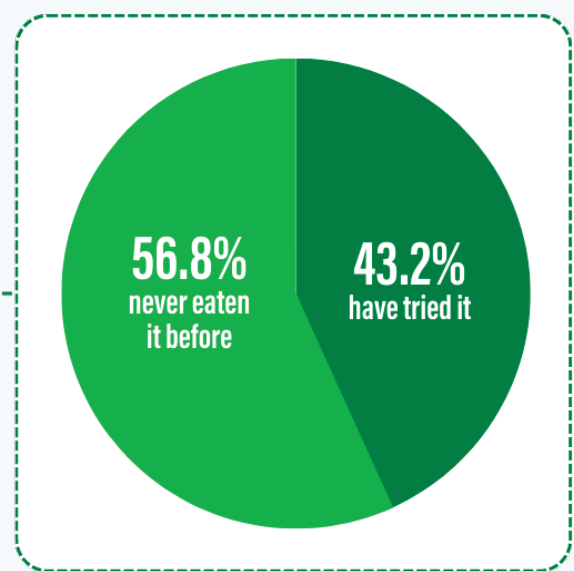
Of those Gen-Z members who are aware of plant-based meat, a large proportion (43.2%) have consumed such products in the past 12 months, demonstrating the relationship between awareness levels and sampling rates.

Recognition of plant-based meat



N=1024

Consumption of plant-based meat



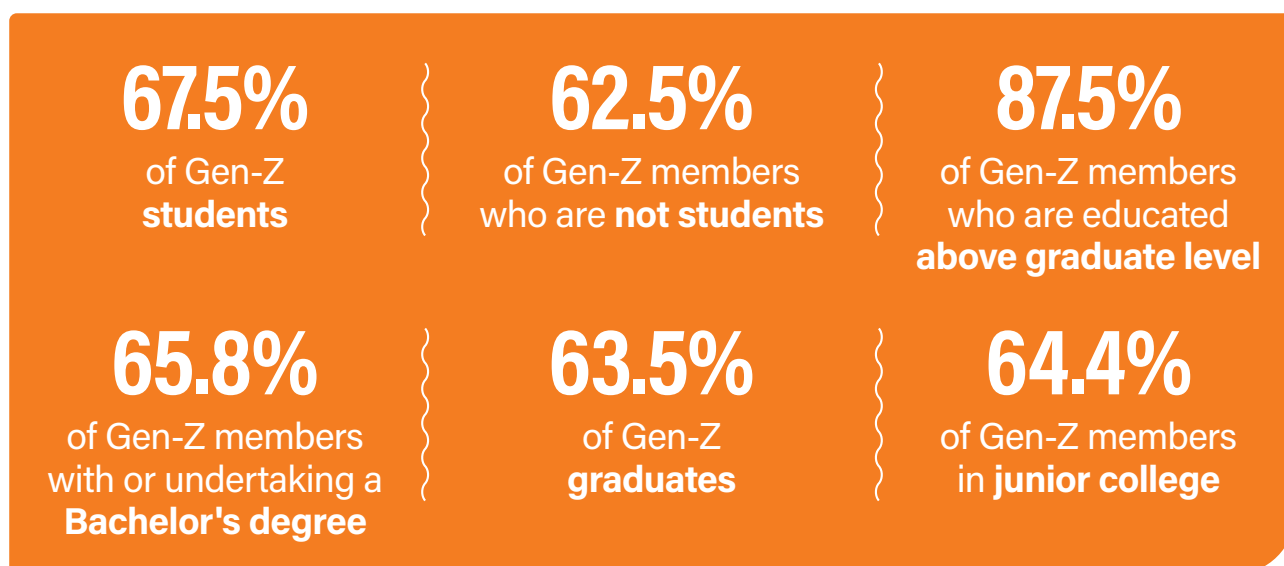
N=669

The results also found that location and education level are possible factors that can affect the recognition and sampling of plant-based meat. People in Shanghai, students, and highly educated groups such as those with postgraduate degrees and above are the most familiar with plant-based meat.

City-by-city recognition of plant-based meat



Recognition of plant-based meat, by education level



Willingness to purchase

Overall, 31.6% of survey respondents were willing to purchase plant-based meat.

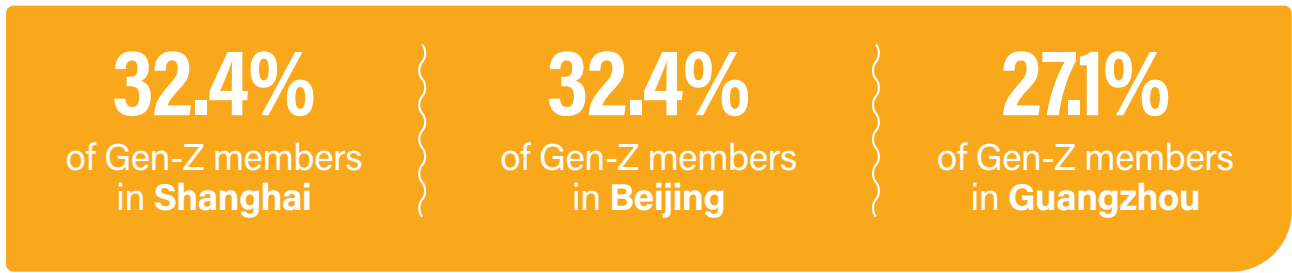
Among those who are aware of plant-based meat and/or follow a plant-forward diet, plant-based meat has strong market potential. For example, the survey results found that 32.9% of those who are familiar with plant-based meat are willing to buy it, while only 29.3% of those who are unfamiliar with plant-based meat would purchase it.

In particular, people who are located in more developed cities like Shanghai and Beijing, and have previously tried plant-based meat show higher purchasing intentions.

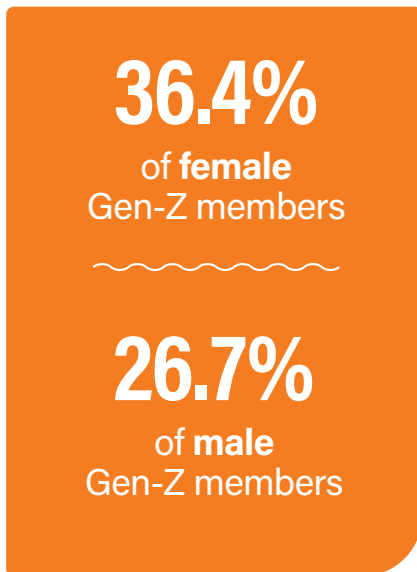
Essentially, the results show that awareness of plant-based meat makes respondents more likely to exhibit purchasing intentions (37% of those who have previously eaten plant-based meat would buy it, compared to 29.7% of respondents who have never eaten plant-based meat).

In order to increase the purchase intention of plant-based meat among Gen-Z consumers in China, companies and organisations must focus on expanding consumer awareness and recognition of plant-based-meat products via improved market education.

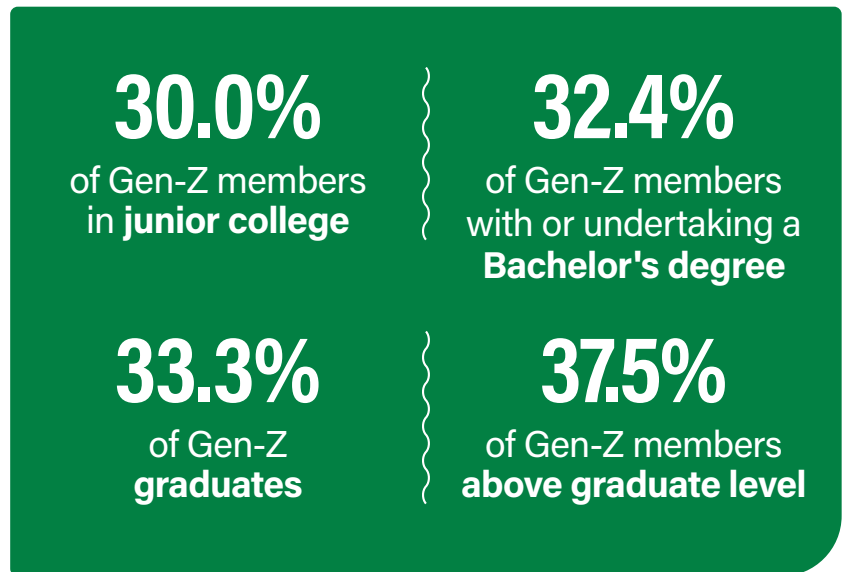
City-by-city willingness to purchase plant-based meat



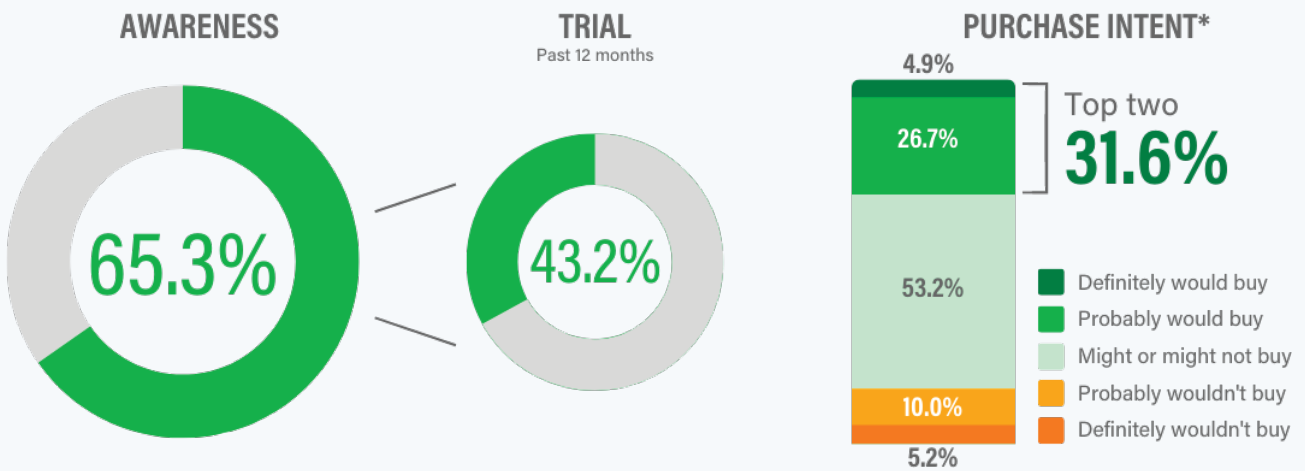
Willingness to purchase plant-based meat, by gender



Willingness to purchase plant-based meat, by education level



GEN Z'S ATTITUDES TOWARDS PLANT-BASED MEAT IN CHINA



April 2023
Base: 1024 aged 19-28 with college and above education, in Beijing, Shanghai, and Guangzhou

*Aided concept shown to all respondents

Purchasing motivations

Since Beijing and Shanghai are experiencing faster economic development and have more diverse cultural environments than other Chinese cities, there are currently more opportunities for the plant-based-meat sector in those cities.

Gender and education level were also found to affect the prominence of purchasing intention. By gender, women Gen-Z members are more willing to purchase plant-based meat (36.4%) than men (26.7%), while those who are more highly educated are also more willing to purchase. This indicates that plant-based meat has a strong category impression among Generation-Z members.

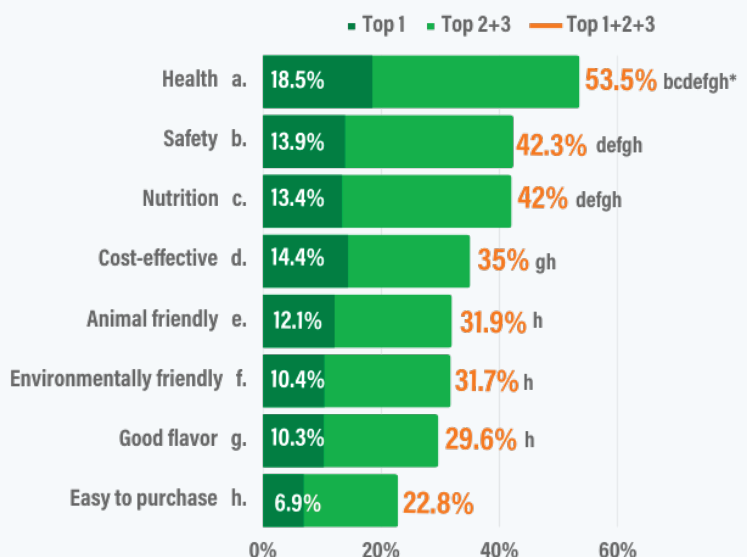
The survey revealed that the factors Gen-Z consider most when choosing to buy plant-based meat products are health, safety, and nutritional factors, with special attention also paid to price.

An interesting finding is that more than 12% of Gen-Z consumers rank 'animal-friendliness' as the top reason for purchasing plant-based meat – above concern about the environment, good flavour, and ease of purchase. This may be related to the rapid increase in the number of Gen-Z pet owners and the escalation of the intimate relationship between younger populations and pets, which has led to an increased focus on animal welfare.

GEN Z'S TOP CONSIDERATIONS WHEN PURCHASING PLANT-BASED MEAT

Health, safety and nutrition are the top 3 factors. Notably, over 10% of respondents selected animal or environmentally friendly as the top factor.

* Letters indicate statistical difference based on 95% confidence intervals



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According to research from the China Pet Industry White Paper 2022 conducted by the China Animal Husbandry Association, Gen-Z accounts for 36.8% of pet owners in China, while pet owners are also getting younger.

As more plant-based meat alternatives become available, ProVeg predicts that the number of people in China choosing alternatives due to their 'animal-friendliness' will accelerate.

While 10.4% of respondents chose 'environmentally-friendly' as the top factor, it's worth noting that it positions relatively low in comparison to the other purchasing drivers. This suggests that there is currently little awareness among the Chinese Gen-Z population about the relationship between animal agriculture and the climate.



Additional factors to consider when purchasing plant-based meat

According to the results, Gen-Z survey respondents who are non-vegetarian and have no specific food preferences are more likely to value health, nutrition, and affordability than other populations.

Respondents who occasionally eat a vegetarian or flexitarian diet value ease of purchase more than other populations.

Conversely, negative perceptions about plant-based meat among Gen-Z consumers in China include poor taste, unnaturalness, insufficient nutrition, and whether it is safe for consumption. Interestingly, those who have never eaten plant-based meat or do not know about it have more concerns about plant-based meat being fake, unnatural, and unnutritious.



Purchasing hesitancy

Top reasons given by respondents overall

17.4%

poor flavour
and taste

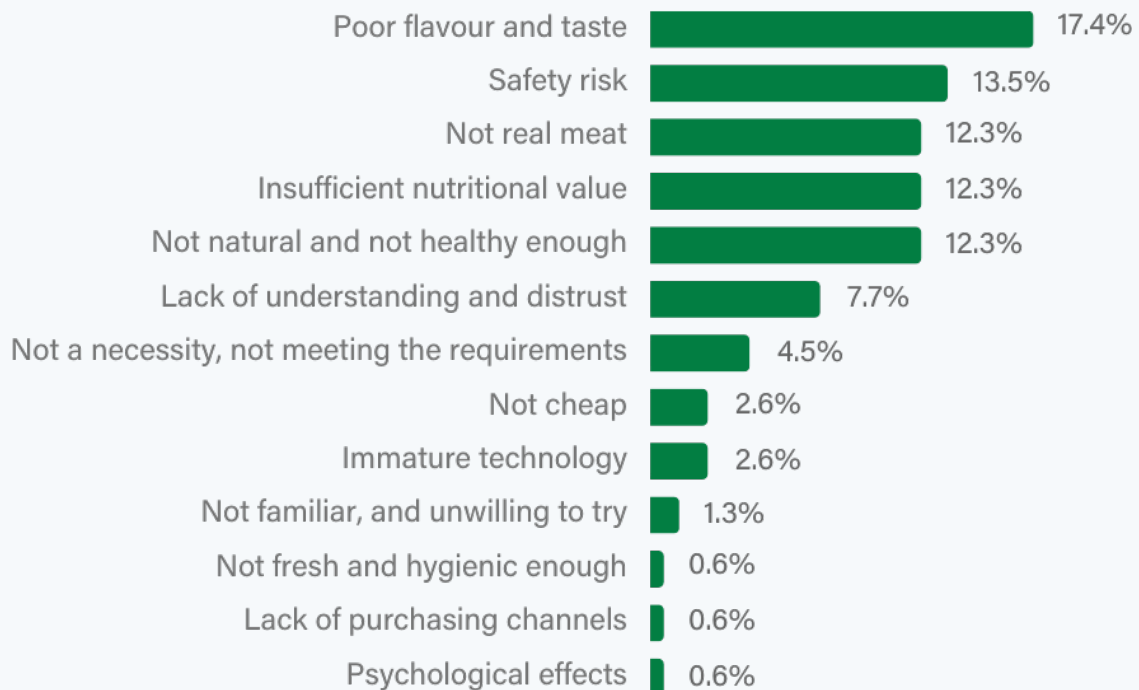
12.3%

insufficient
nutritional value

12.3%

not real meat

Why are some consumers unwilling to purchase plant-based meat?



N=155

We can use both the overall and individual consumer results to help us understand the reasons why some Gen-Z members might choose not to buy plant-based meat products.

For example, among respondents who have not eaten plant-based meat before, the most common reason given for not purchasing plant-based meat was 'insufficient nutrient values,' with 12.3% choosing this option. This demonstrates that further consumer education is required regarding the nutritional values of plant-based foods.

Among those who are unfamiliar with plant-based meat, the strongest reason for unwillingness to purchase was 'poor flavour and taste', with 17.2% of respondents choosing this answer.

Additionally, the results also found that among those who have tried plant-based meat products, the biggest reason for unwillingness to make a future purchase is that it is 'not real meat'. Similarly, among those who know about plant-based meat, the biggest reason given for not wanting to buy products was 'poor flavour and taste'.

With this in mind, plant-based meat product developers in China should continue to work on the taste and texture of their products in order to improve the 'meaty' experience and thus attract Gen-Z consumers.



Acceptable price range

When asked about the price of plant-based meat, 39.1% of consumers thought that plant-based meat would cost more than pork. Additionally, 4.7% of Gen-Z respondents answered that plant-based meat is more expensive than conventional meat.

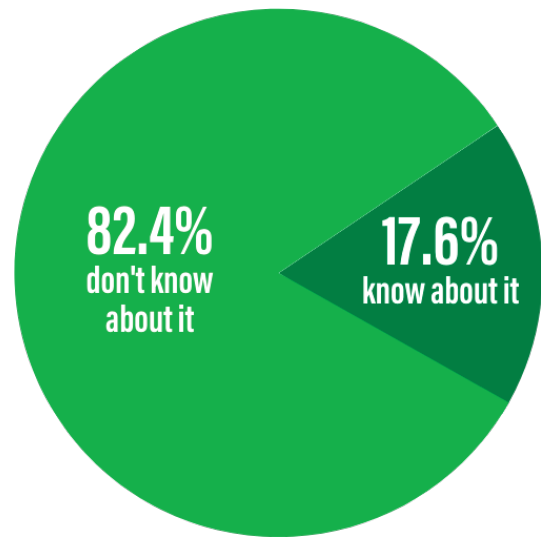
According to the survey data (taking 15 yuan [1.9 euros] per 500g of pork as a reference), consumers think that the optimal price range for plant-based meat is between 17.9 (2.3 euros) and 30.5 yuan (3.9 euros), and the optimal price is 22.1 yuan (2.6 euros) per 500g of product.

By population, the optimal price for people who have tried plant-based meat is relatively high, at 22.3 yuan (2.9 euros) per 500g of product.

Cultivated meat

Recognition and awareness of cultivated meat

Since there are currently no cultivated-meat products on the market in China, awareness about cultivated meat is still in its infancy. However, ProVeg's survey results show great market potential for the sector. 17.6% of Gen-Z respondents already know about cultivated meat, with those based in Shanghai and having a higher education being the most familiar with the idea of cultivated meat.

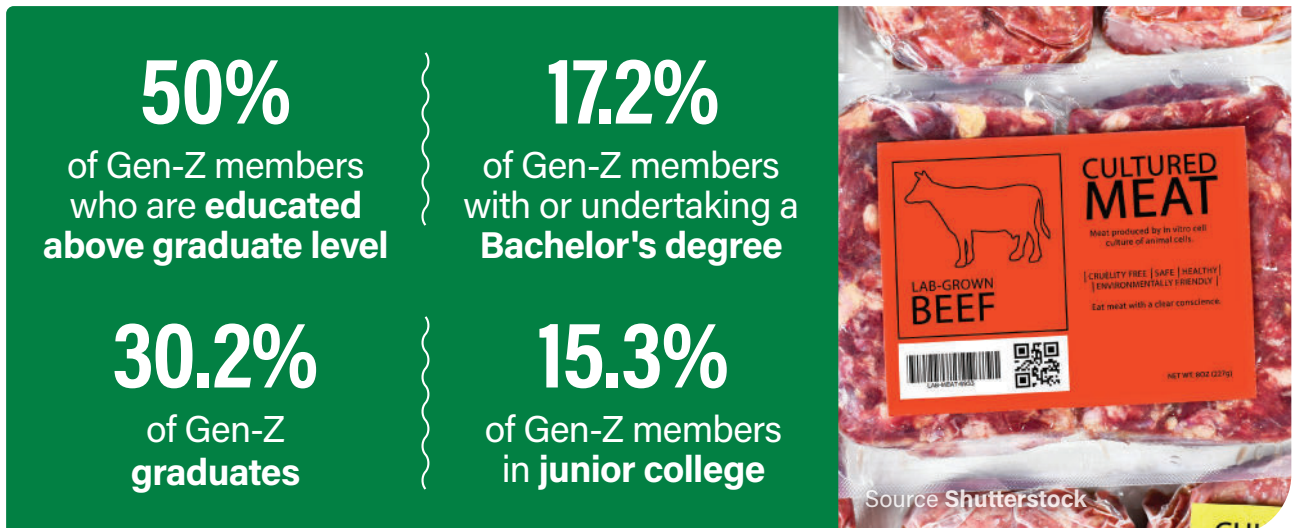


N=1024

City-by-city recognition of cultivated meat



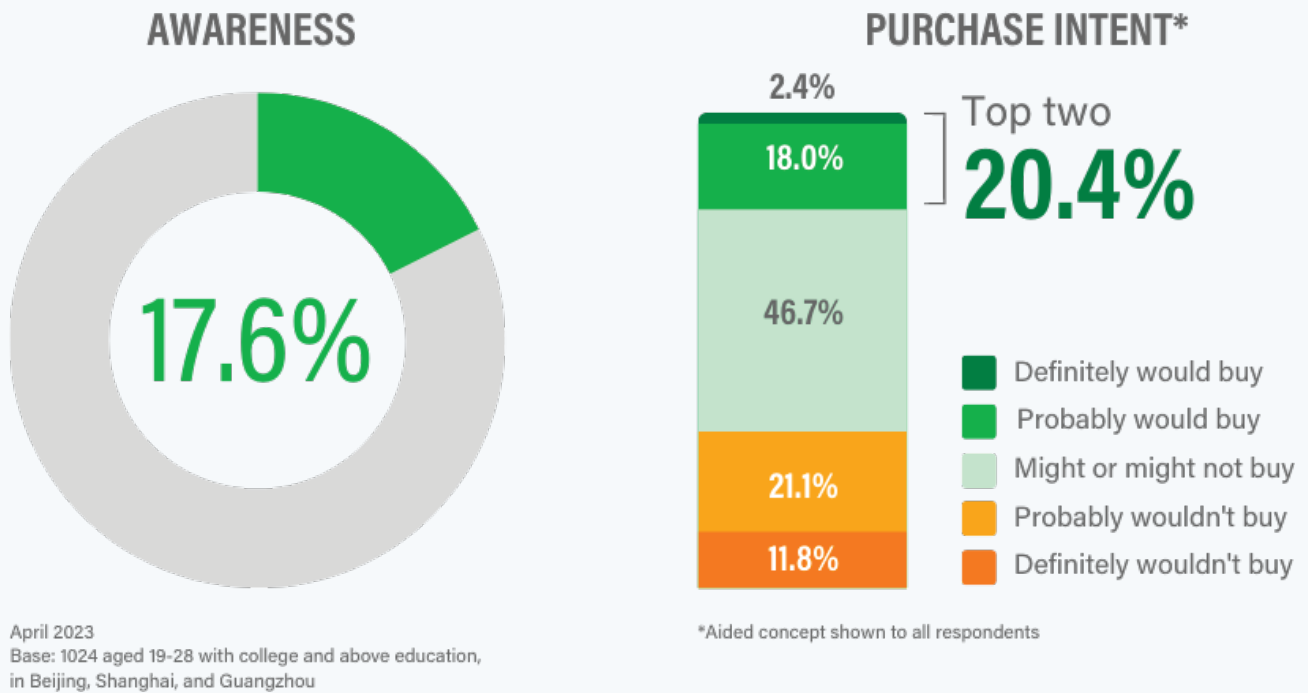
Recognition of cultivated meat by education level



In addition, the survey showed that recognition of cultivated meat is higher among Gen-Z respondents who have a basic understanding of plant-based meat or are familiar with plant-based-meat products (have purchased/eaten such products in the last 12 months).

Awareness is also greater among those who follow a semi-vegetarian, vegetarian, or fully plant-based diet, at 18.2%, 33.3%, and 20% recognition, respectively.

GEN Z'S ATTITUDES TOWARDS CULTIVATED MEAT IN CHINA



Willingness to purchase

After an aided concept was shown to Gen-Z respondents, 20.4% of them said that they would buy cultivated meat, which is higher than the proportion of those who know about it (17.6%), indicating that the market has great potential to accept cultivated meat.

However, willingness to buy cultivated meat is higher among populations who are familiar with the concept. Indeed, the survey found that Gen-Z respondents who are familiar with the concept of cultivated meat are more willing to purchase it (22.8%) compared to those who are unfamiliar with it (19.9%).

In order to increase consumer willingness to purchase cultivated meat, more extensive market promotion and consumer education about cultivated meat is required. Encouragingly, among those who do not yet know about cultivated meat, there is a strong likelihood that they will show interest in buying it after learning more about what it is.

There is also greater market potential for cultivated meat among students, highly educated individuals, people who possess a basic understanding of plant-based meat, and those who follow a plant-forward diet.

City-by-city willingness to purchase cultivated meat

21.1%

of Gen-Z members
in **Shanghai**

18.6%

of Gen-Z members
in **Beijing**

19%

of Gen-Z members
in **Guangzhou**

Willingness to purchase cultivated meat, by education level

22.4%

of Gen-Z
students

17.9%

of Gen Z who are
not students

20%

of Gen-Z members
in **junior college**

20.1%

of Gen-Z members
with or undertaking a
Bachelor's degree

23.8%

of Gen-Z
graduates

37.5%

of Gen-Z members
who are educated
above graduate level

Among people who eat a mostly plant-based diet (with the occasional egg or dairy product included), willingness to purchase cultivated meat is significantly higher (50% of Gen-Z vegetarians are willing to purchase cultured meat). Likewise, 20.6% of those who eat both vegetables and meat, without any diet preference, are willing to try cultivated meat, which bodes well for market uptake.



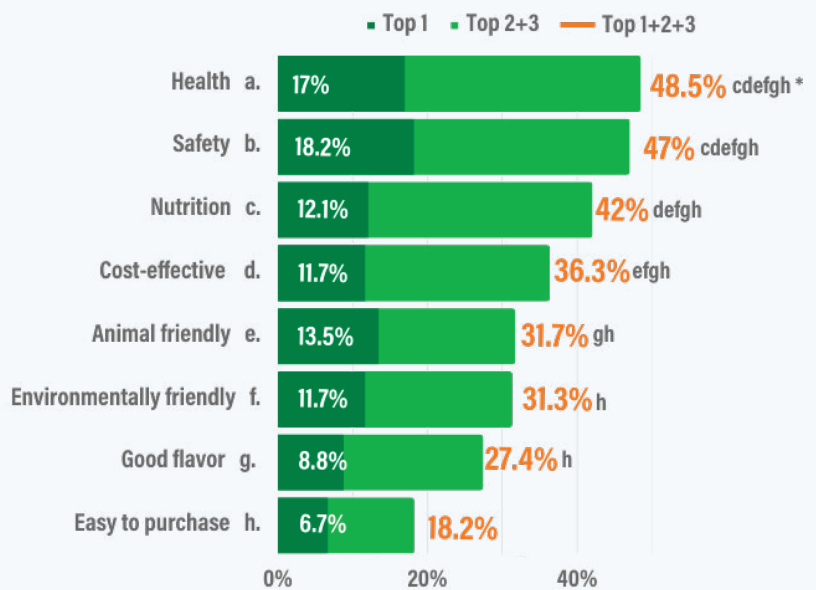
Purchasing motivations

Perhaps unsurprisingly, consumers' purchasing motivations for cultivated meat are similar to those for plant-based meat – the survey found that consumers value health, safety, and nutrition the most when considering purchasing cultivated-meat products. Less consideration is given to environmental and animal-welfare, although these factors were rated above affordability, flavour, and ease of purchase.

GEN Z'S TOP CONSIDERATIONS WHEN PURCHASING CULTIVATED MEAT

Health and safety are the most important factors. Animal-friendliness is ranked third as a top consideration.

* Letters indicate statistical difference based on 95% confidence intervals



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However, it is important to note that a respective 13.5% and 11.7% of consumers chose 'animal-friendliness' and 'environmentally friendliness' as the most important purchase drivers for cultivated meat – quite unexpected in the Chinese market.

People who are familiar with cultivated meat have an even higher recognition of its 'animal-friendly' value – with 17.2% of Gen-Z members choosing this as the most important purchasing consideration compared to those who are unfamiliar with the technology, who instead prioritise health and safety. This shows promising results for animal friendliness as a motivating factor among Gen-Z consumers who are aware of cultivated meat.

Additional factors that Gen-Z consumers take into account when purchasing cultivated meat

According to the results, non-vegetarians, flexitarians, and those who occasionally eat a vegetarian diet pay more attention to the safety aspects of cultivated meat. In addition, flexitarians pay more attention to health factors, while plant-based consumers are more concerned with animal friendliness and price.

Purchasing hesitancy

The main reasons why respondents do not purchase cultivated meat are safety (overall, 27.3% of respondents gave this reason), natural health (13.1%), and trust (11.1%), with taste and price considerations being secondary. As such, we can concur that there are still many obstacles to making cultivated meat a broadly accepted food choice for Gen-Z consumers. Greater market promotion and consumer education are needed in order to grow the potential purchasing population.

Why are some consumers unwilling to purchase plant-based meat?



N=155

Acceptable price range

More than half (55.3%) of Gen-Z consumers think that the eventual market price of cultivated meat will be higher than that of conventional meat.

The optimal price range is between 19.1 and 31.4 yuan (2.5 and 4.1 euros) per 500g, and the optimal price is 22.5 yuan (2.9 euros), which is slightly higher than that of plant-based meat.

However, generally speaking, recognition of cultivated meat needs to be more widespread before an 'acceptable' price range for consumers can be established.

The optimal-price results for each population group are relatively consistent, without any significant differences.



Summary of findings

Plant-based meat and cultivated meat – market recognition

Plant-based meat is highly recognised in the current market

- 65% of surveyed participants know about plant-based meat.
- People in Shanghai, students, and highly educated groups are the Gen-Z groups that are the most familiar with plant-based meat.
- Respondents who follow a vegetarian diet are the most familiar with plant-based meat, compared to those who follow other diets.

The recognition of cultivated meat is still at an early stage

- 17.6% of surveyed participants know about cultivated meat.
- By population, people in Shanghai, students, and highly educated groups are the most familiar with cultivated meat.
- People with a basic knowledge of plant-based meat and those following a vegetarian diet have a higher level of recognition of cultivated meat.

Plant-based meat and cultivated meat – purchase intention

31.6% of surveyed participants are willing to purchase plant-based meat:

- People who know about/consume plant-based meat are more willing to purchase it, especially those who have tried it before.
- In Beijing and Shanghai, there is more significant market potential among women and more highly educated individuals.

20.4% of surveyed participants are willing to purchase cultivated meat:

- This is higher than the proportion of those who know about cultivated meat (18%), indicating that the market has great potential to accept cultivated meat.
- Those who do not yet know about cultivated meat are likely to show interest in buying it after learning about it.
- There is greater market potential for cultivated meat in Beijing, with students and more highly educated individuals being more willing to purchase products.

Price perceptions of plant-based meat:

- 39.1% of respondents think that plant-based meat will cost more than conventional pork, while 60.9% think that it will be cheaper.
- People who have tried plant-based meat (42.5%), flexitarians (40.9%), and people who occasionally eat a vegetarian diet (44.6%) make up the majority of respondents who are willing to pay a higher price for plant-based meat.
- The optimal price range for 500 grams of plant-based meat is between 17.9 yuan (2.3 euros) and 30.5 yuan (3.9 euros) yuan, with the optimal price being 22.1 yuan (2.6 euros). For those who have tried plant-based meat, the optimal price relatively high (22.3 yuan [2.9 euros] per 500 g).

Price perceptions of cultivated meat:

- 55.3% of respondents think that cultivated meat will cost more than conventional pork, while 44.7% think that it will be cheaper.
- Of the people who are willing to accept that cultivated meat will be more expensive than conventional meat, those who occasionally eat a vegetarian diet (63.6%) are more willing to purchase.
- The optimal price range for cultivated meat is between 19.1 and 31.4 yuan (2.5 and 4.1 euros), with an optimal price of 22.5 yuan (2.9 euros) per 500 g of product – slightly higher than that of plant-based meat.



Recommendations

Based on the results of the survey, ProVeg recommend the following actions in order to increase Gen-Z's uptake of sustainable proteins in China.

Audience

Target highly educated groups, giving market priority to Shanghai and Beijing.

In terms of the target audience, highly educated groups are more likely to recognise the emotional value of protecting the environment and the welfare of animals – the survey results indicate that these groups have a higher purchasing intent for both plant-based and cultivated meat.

Meanwhile, Beijing and Shanghai have more developed economies and are deeply influenced by multiculturalism. Consumers in the two cities are more receptive to emerging products and thus have a higher willingness to buy them.



Consumer education and marketing

Invest in consumer education and marketing in order to promote the benefits of health, food safety, animal-friendliness, and an improved environment.

Improving the recognition of plant-based and cultivated meat will be vital to improving market uptake. This will need to be achieved through increased consumer education and more efficient marketing strategies.

The results showed that young consumers who are aware of plant-based meat show a higher willingness to buy both plant-based and cultivated-meat products. As such, it is necessary to increase consumers' familiarity with both categories by increasing market publicity and education, and thus increase their favourability, which is likely to lead to increased sales.

In order to address consumers' concerns about the health and safety of sustainable proteins, highlighting the safety and nutritional values through educational content is highly recommended.

Food companies can promote the health benefits and safety of sustainable proteins (particularly cultivated meat) in the following ways:

1. Introduce consumers to the production process in order to increase consumers' understanding of new products and thus reduce distrust.
2. Optimise product names using phrases with positive attributes, such as 'natural proteins', 'high-quality proteins', etc., thus highlighting the benefits in terms of health, naturalness, and nutrition, and dispelling consumer concerns around these issues.
3. When marketing and merchandising sustainable protein products, promote the animal-welfare and environmental benefits – these Gen-Z motivations are expected to become the new drivers for the growth of the sustainable protein sector.

Price positioning

Reduce the cost of production in order to bring it close to the price of conventional meat.

Reducing production costs is one of the main challenges for sustainable proteins. It is recommended that plant-based and cultivated-meat manufacturers further optimise their technology so that end prices gradually approach that of conventional meat. This will lead to greater acceptance by consumers and enhance sales.

Plant-based-meat companies can significantly expand their growth potential by making products affordable for consumers. Over the next few years, food companies should aim to achieve price parity between sustainable protein products and conventional meat prices.



Conclusions

The future of the food industry in China looks bright, with the country on track to welcome tasty and sustainable food products produced through cellular agriculture, as it is already beginning to accept plant-based products.



China's Generation Z prioritises health and increasingly cares about animals and the environment. Coupled with the rapid development and innovation of sustainable protein, Gen-Z will become the driving force in the transformation of the meat industry in China."

Shirley Lu,

Managing Director – Asia & Chief China Representative

By taking into account ProVeg China's recommendations, alt-protein businesses in China will be able to drive consumer awareness of plant-based and cultivated-meat products and thus boost sales of sustainable-protein products.

Ultimately, the popularity of sustainable proteins will bring new opportunities to the entire meat industry in China. Excitingly, such products will also help to protect the country's ecology and environment and help to establish food security, a sentiment that is echoed in the Chinese government's latest position on food resilience and security.

In a recent speech at the National Committee of the Chinese People's Political Consultative Conference, President Xi Jinping highlighted the necessity of adopting a 'greater food' approach to nutrition in order to ensure a secure supply of all staple food groups, and stressed the importance of alternative proteins.

In his speech, Xi told delegates: "While protecting the ecology and environment, we should shift our focus from farmland only. Apart from traditional crops, livestock, and poultry resources, we should exploit biological resources. By developing biological science, biotechnology, and bio-industries, we can obtain calories and protein from plants, animals, and microorganisms."

2. Xi visits CPPCC members in sectors of agriculture, welfare and social security, (2023). English News. Available at: <https://english.news.cn/20220307/e98039b53ab8418e9684c0c5847e943c/c.html>. Accessed 2023-05-26.

Although cultivated-meat products are yet to be approved in China, Xi's reference to alternative proteins and bio-industries in his speech can be inferred as an endorsement of them. This follows the inclusion of alternative protein in China's Five-Year Plan in a policy document published by the Chinese Agriculture Ministry earlier this year.

All of this follows China's more plant-rich approach to diet through the country's updated Chinese Dietary Guidelines, which place greater emphasis on consuming a greater number of whole plant-based foods.

If China puts the power of its economy behind its efforts to promote sustainable proteins, the global food system is likely to become greener, safer, more efficient, and more ethical – an exciting prospect for the future of food.

For more information about this report or for collaboration inquiries, please get in touch with ProVeg China at proveg.asia@asia.com



