

# CONSUMER ATTITUDES TO ARTIFICIAL MEAT IN CHINA

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## I. OBJECTIVES

China is the largest producer and consumer of meat in the world. The meat consumption amount was predicted to increase from 158.3 to 330.4 million tons between 2010 and 2050, and meat production probably cannot meet this large demand of consumers. At the same time, animal farming places a severe burden on the environment, which raises people's concerns about the sustainable development of animal husbandry. In order to solve these challenges and meet the needs of consumers, artificial meat has received extensive attention in the meat industry, academia, and media. However, the attitude of Chinese consumers towards artificial meat is not explicit. Therefore, the objective of the study was to investigate consumers' attitudes towards cultured meat (CM) and plant-based meat (PBM) and their purchase preference in artificial meat production schemes in China.

## II. MATERIALS AND METHODS

This research was based on an online survey on the website <https://www.wjx.cn/>. Participants answered questions including questions about gender, age, education, frequency of consuming meat, and familiarity with artificial meat. Then a brief introduction of artificial meat was provided: CM, a kind of animal protein produced by stem cells from an animal and cultured in a suitable medium. PBM is a plant protein product with meat texture and flavor produced through specific processing technology. Respondents also answered about their willingness to purchase CM or PBM, respectively, which was scored by a 5-point rating scale: will not purchase (1 point), would like to know more information and then to determine (2 points), would like to try artificial meat (3 points), would like to replace part of traditional meat with artificial meat (4 points), would like to replace all traditional meat with artificial meat (5 points). In addition, the participants answered what kinds of production schemes they would like to choose, including CM, PBM, a mixture of PBM and CM (PBM&CM), and a mixture of artificial meat and traditional meat (AM&TM). The survey lasted for 1 wk, and 3,691 valid responses were obtained. All statistical analysis was performed using SPSS software (IBM Corp., Armonk, NY).

## III. RESULTS

According to this survey, 68.2% of the 3,691 responders would like to try or replace traditional meat with PBM, with an average score of 3.63 of willingness to purchase, and 64.92% of responders would like to try or replace traditional meat with CM, giving an average score of 3.61. Moreover, the results also showed that responders preferred PBM (mean = 2.96, SD = 1.13) to CM (mean = 2.88, SD = 1.12). In terms of production schemes, the results showed that 40.75% of consumers chose PBM, and 26.98%, 14.03%, and 18.23% of consumers chose PBM&CM, CM, and AM&TM, respectively (Figure 1). Therefore, PBM will be a relatively popular product among artificial meat products for Chinese consumers.

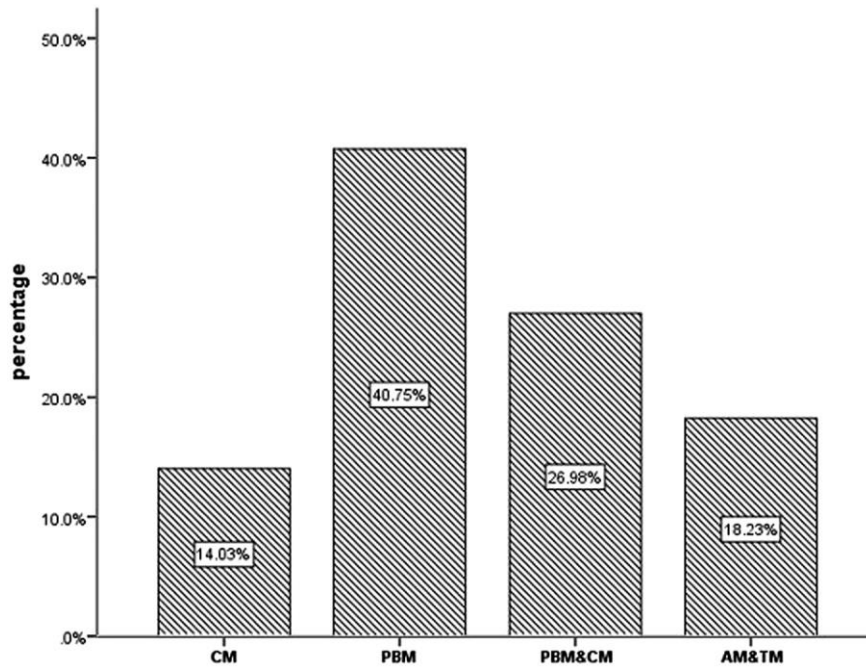


Figure 1.

The consumer preference to different manufacturing scheme

#### IV. CONCLUSION

Chinese consumers have a positive attitude towards purchasing both PBM and CM, and PBM was more preferred in the production schemes of artificial meat. Artificial meat is supposed to be a solution to meet the requirements of meat consumption, and PBM should be paid more attention in this moment.

Keywords: consumer preference, cultured meat, plant-based meat