

Awareness and Acceptance of Cultured Meat

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Abstract

The human population is increasing every second so requirement of food also has increased to feed large number of people. Large number of populations in the world eat meat and meat products. But animals from which we get meat is not increased in that ratio. In future there would be shortage of non-vegetarian items all over the world. Even vegetarian people do not eat meat items and they have deficiency of protein in their body. To tackle these two issues, scientist have developed meat in the laboratory which is pure vegetarian and contains protein as well like animal meat comprises.

The descriptive research focuses on making awareness of lab developed meat or cultured meat which looks exactly like animal meat. Responses were collected by distributing questionnaire to students and meat enthusiastic from different fields by using random sampling technique. Still use of culture meat is very limited and people do not know the difference plant-based meat and animal sourced meat. Animal sourced meat is preferred by respondents over the cultured meat. Artificial meat is more expensive than animal meat because it is produced on small scale. When it will be manufactured on large scale at commercial level then cost of it will be lesser. Cultured meat has lots of advantages like no emission of greenhouse gases, sustainable and no disease.

Keywords: Cultured Meat, Artificial Meat, Food, Meat

cultured meat will be, or whether it will taste good enough to appeal to people to buy it. It could take years or decades before you see cultured meat on store shelves or in restaurants.

They bathe the cells in a liquid containing nutrients to help them duplicate and put them into a bioreactor, a lab device for growing.

Other than Artificial meat, the terms:

Butcher free meat	Lab-developed meat	Cultivated meat
In vitro meat	Cell-based meat	Manufactured meat
Vat developed	Clean meat	Synthetic meat

Meat is an essential, yet expensive source of protein. About two-thirds of the agricultural land is used for livestock cultivation. Artificial Meat offers a safe and disease-free way to meet increasing meat requirements without involving animal sacrifice and at the same time reducing greenhouse emissions, as compared to conventional meat. Artificial Meat also reduces the negative environmental impact of modern-day intensive meat production. It has a much higher protein content as well as taste as compared to slaughtered animal meat. The source material for the production of Artificial Meat can be taken from live animal biopsies or animal embryos. For high-quality cultured meat, the composition and the source of ingredients used to produce the meat are considered important. It can be a convenient method to develop ground-meat processed products such as sausages, burgers, nuggets, etc.

Following is the list of companies with their location and year of foundation which are manufacturing cultured meat for humans and pets as well along with the image of preparations and their products:

INTRODUCTION

Cultured meat is also called as lab grown, clean, or cultivated meat. It is real meat, but it doesn't require animals to be slaughtered the way traditional meat does. It's not clear yet just how healthy and cost-effective

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<i>Balletic Foods</i>	<i>Good Meat</i>	<i>Type</i>	<i>Meatable</i>
Biftek	UPSIDE Foods	Aleph Farms	Mosa Meat
BioBQ	Mission Barns	BioFood Systems	Shiok Meats
BlueNalu	New Age Meats	Future Meat Technologies	Biotech Foods
Bond Pet Foods	Pearlita Foods	MeaTech 3D	GOURMEY
Finless Foods	Wild	SuperMeat	Vow
Avant Meats	Higher Steaks	Clear Meat	

Significance of the Study

The research paper provides insights into the factors that influence consumer acceptance of cultured meat. The study found that awareness of cultured meat is the best predictor of acceptance, and that information on the personal benefits of cultured meat (such as its environmental impact and animal welfare benefits) increases acceptance more than information on its quality and taste.

Objectives

- To find the awareness level of customers about cultured meat.
- To find the acceptance level of cultured meat among consumers.
- To discuss the advantages and disadvantages of cultured meat.

Scope of the Study

This research is done with a limited scope of two cities which are 1st tier cities of India and developing in all aspects. There is a need to find different ways through which the concept of Artificial meat can be promoted.

Limitations of the Study

There are delimitations found in every research. No investigator can claim that his investigation is complete in all aspects. Thus, the boundaries of the study are called delimitations:

- The study covers only two cities in India that too only from the Maharashtra region.
- This study is limited to only consumers who consume meat.

LITERATURE REVIEW

The paper is a systematic review of the literature on consumer acceptance of cultured meat. It identifies 29 studies that were published between 2011 and 2018. The studies were conducted in different countries, including the United States, the United Kingdom, the Netherlands, Germany, China, and Israel.

The paper found that there is a growing awareness of cultured meat among consumers. However, there is still a lot of uncertainty about the product, and many consumers are not yet ready to accept it.

The paper identified a number of factors that influence consumer acceptance of cultured meat. These factors include:

- *Awareness*: Consumers who are aware of cultured meat are more likely to accept it.
- *Personal Benefits*: Consumers who believe that cultured meat has personal benefits, such as being better for the environment or animal welfare, are more likely to accept it.
- *Taste*: Consumers who believe that cultured meat will taste good are more likely to accept it.
- *Price*: Consumers who believe that cultured meat will be affordable are more likely to accept it.
- *Availability*: Consumers who believe that cultured meat will be available are more likely to accept it.

The paper also found that some consumers have concerns about cultured meat, such as the safety of the product, the ethical implications of its production, and the taste of the product. These concerns need to be addressed in order to increase consumer acceptance of cultured meat.

The paper concludes that consumer acceptance of cultured meat is likely to increase in the future as the product

becomes more familiar and the production costs decrease. However, there are still a number of challenges that need to be overcome before cultured meat can become a mainstream food product.

Here are some additional studies that have been published on consumer acceptance of cultured meat since 2019:

- “Consumer Acceptance of Cultured Meat: An Updated Review (2018–2020)” by Wilke et al. (2021).
- “The Effect of Information Content on Acceptance of Cultured Meat in a Tasting Context” by van der Weele et al. (2021).
- “Consumer Acceptance of Cultured Meat: A Cross-Cultural Study” by Kim et al. (2022).

These studies provide further evidence that consumer acceptance of cultured meat is increasing. However, there are still a number of factors that need to be considered in order to ensure the widespread acceptance of this new food product.

RESEARCH METHODOLOGY

Data Collection

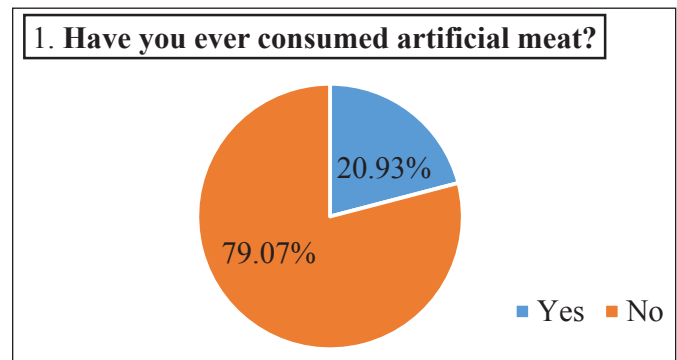
- Primary Data was collected from Questionnaire: A structured questionnaire with closed-ended questions was used for this research. Questions were divided into different sections. Questions based on awareness about the concept of Artificial Meat, Challenges and benefits of the concept, and Availability and acceptability of Artificial meat by consumers.
- Secondary Data was Collected from Literature available on the internet.

Sampling

- Samples comprising undergraduate students from different fields and meat enthusiasts who were ready to try innovations and dishes were selected.
- *Sample Size:* The questionnaire was successfully filled out by 86 respondents.

RESULTS AND DISCUSSIONS

A questionnaire that was aimed to get data from the respondents regarding the objectives of the report was floated in college groups, friends’ groups, and individuals. The following data had been collected from the respondents.



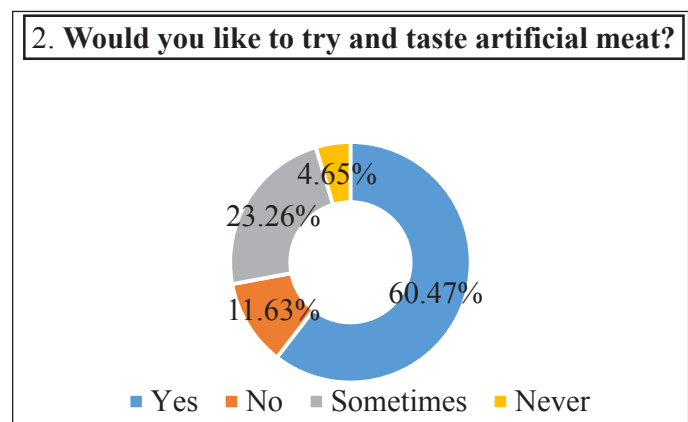
The chart shows data from respondents who have and haven’t consumed cultured meat.

Observation

According to the data obtained only 20.93% of the respondents have consumed Cultured meat whereas 79.07% of respondents never consumed artificial meat.

Interpretation

The data suggests that due to a variety of reasons of availability, acceptability, cost, etc., a significant amount of people have not consumed cultured meat yet.



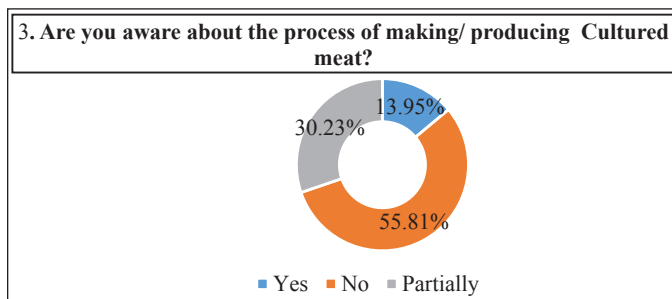
The chart shows the data of respondents who are willing to try and taste cultured meat.

Observation

The data in the above chart shows that 60.47% of respondents want to try cultured meat, 23.26% of respondents would like to try it sometime, 11.63% of respondents don't like to try and 4.65% of the respondents would never like to try the cultured meat.

Interpretation

The data shows that more than half of the respondents want to try cultured meat which is a greater number than the combined number of other categories of people.



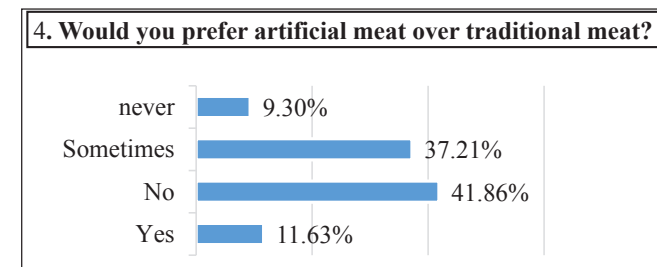
The chart shows the data of respondents who are aware of the process of making cultured meat.

Observation

According to the data obtained only 13.95% of the respondents know about the process of making cultured meat, whereas 30.23% of respondents have a partial idea and 55.81% of respondents have no idea of how it is made.

Interpretation

The obtained data confirms that the percentage of people who are aware of the process of making cultured meat is very less as compared to people who know the process.



The chart shows the future preference of the respondent towards cultured meat over traditional meat.

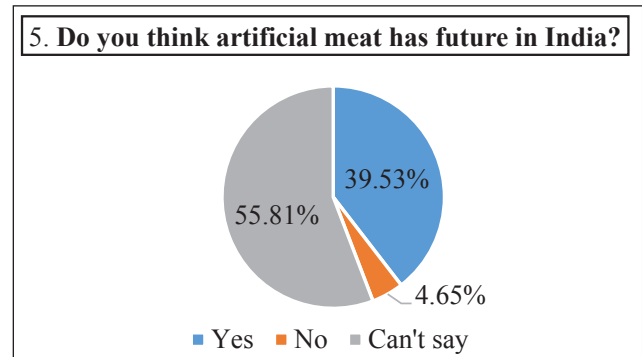
Observation

The data tells that 11.63% of respondents would prefer cultured meat whereas 41.86% of respondents will

not prefer cultured meat. 37.21% of respondents might sometimes prefer cultured meat, but 9.30% of them will not do that at all.

Interpretation

The data shows a very low number of people are likely to prefer cultured meat over traditional meat.



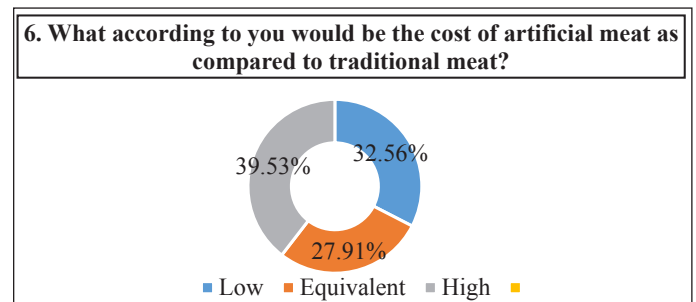
The chart shows the view of respondents on the future of cultured meat in India.

Observation

The data shows that 39.53% of respondents think that cultured meat has a future in India while on the other hand 4.65% of the respondents think cultured meat has no future in India and 55.81% of respondents are still not sure about it.

Interpretation

According to the data obtained, half of the people are not sure about the future of cultured meat in India and a very low percentage of people think it has no future in India.



The chart shows the perspective of the respondents on the price of cultured meat as compared to traditional meat.

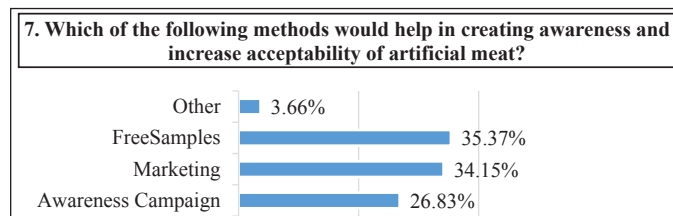
Observation

32.56% of the respondents think that the price of cultured meat would be low as compared to traditional meat,

whereas 39.53% of the respondents think it would be high. While 27.91% of the respondents think it would be equivalent.

Interpretation

As per the chart, the opinions of the respondents on the price of cultured meat are almost equally divided.



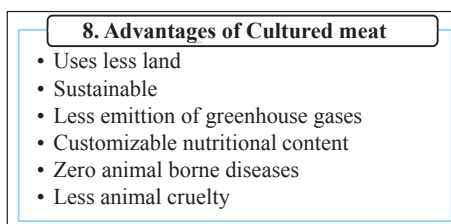
The chart shows the view of respondents on what methods to use to increase acceptance and awareness of society towards cultured meat.

Observation

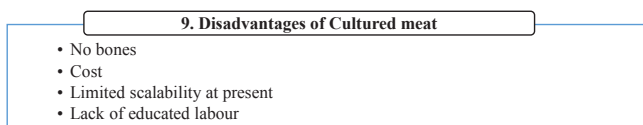
The data shows that 26.83% of respondents think Awareness campaigns would be a better option, 34.15% of respondents think Marketing would be a better option and 35.37% of respondents think the distribution of free samples would be better whereas 3.66% of respondents think that all the above methods should be used.

Interpretation

The chart shows that the majority of respondents think free samples would be a better way of creating awareness in consumers followed by marketing and awareness campaigns.



The above list shows the advantages of the cultured meat selected by the respondents.



The above list shows the disadvantages of cultured meat selected by the respondents.

SUGGESTIONS AND RECOMMENDATIONS

According to the survey, people are not familiar with the concept of Artificial meat but surprisingly many people want to try it. A few suggestions and recommendations to promote the use of Artificial meat are:

- Campaigns, Increasing availability in the regular market
- We can give customers a sample of a particular dish made with natural meat and artificial meat. Customers will understand the difference between them. This will help to promote artificial meat.
- It is a type of meat that is not heard by many people so awareness about it will make things better for the generation.
- Explaining exactly what Artificial meat is. Many don't know about the term. And then explaining why it is necessary in this changing time.

CONCLUSION

There is a need to create awareness about artificial meat, as it could significantly improve the world. The use of artificial meat should be promoted in different ways as it offers a way to drastically cut greenhouse emissions, save energy and water, feed the world's growing population, and eat meat without killing animals. However, soon, there is a good reason to suspect that artificial meat will be met with great resistance and will be slowly adopted.

The identification of artificial meat as "real tissue" is important, and without basic education on the matter, many people will likely view it as somehow distinct. Many do not know what stem cells are, or how they work, and so the notion that artificial tissue is identical to natural tissue in terms of physical composition is not widely understood. Scientific knowledge should be provided to people to make them understand how "artificial meat" is safe. It should be easily available so that people can experience the meat. Professionals in the culinary field should accept it and start using artificial meat. Different factors should be promoted such as high yield in a product, quality product, and texture of the product as compared to natural meat.

It should be available in the local and commercial markets. Explaining the problems faced by the meat

Industry due to increasing demand in terms of seminars, advertisements, etc. Workshops should be conducted to promote and educate people. Branding should be done to increase the appeal of the product as many people tend to buy it considering the brand name. The perception and adoption of artificial meat could be significantly improved via branding. It is a collective observation that there is a need to create awareness and promote the product to change consumers' perceptions positively.

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