



Consumer Interest Towards Cell-based Meat

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Consumer interest towards ex-vivo cultivated meat

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Efforts to commercialize “clean meat” or ex-vivo cultivated meat are accelerating posing to disrupt the agbiotech sector.

In recent years, the prospect of producing “clean meat” ex-vivo without farming animals, has gained popularity as multiple startups around the world have showcased prototypes aimed at revolutionizing animal agbiotech. While consumer acceptance research of clean meat is now an emerging topic, this is the first study which engaged it beginning in 2015, the largest with 5,000+ individuals surveyed, and the longest lasting concluding in 2017. Here we report the results of this study gauging consumer interest on the populations of the largest meat consuming nations per capita, the United States and Australia.

Survey methodology

A total of 5,072 participants completed the survey from three distinct populations around the world. University Sample: 3,219 subjects from various departments within Florida Atlantic University (Boca Raton, FL) completed our survey in return for course credit. United States Sample: 1,538 subjects completed the survey through the survey engagement platform, Amazon Mechanical Turk. Australia Sample: 314 subjects completed the survey through the survey engagement platform, Prolific Academic. This study was approved by the Florida Atlantic University Institutional Review Board and all participants were compensated according to associated ethical research guidelines.

Participants were presented with the following definition for ex-vivo cultivated or clean meat (referred to as “cultured” meat in the survey): *Scientists are working towards producing meat by using animal cells instead of living animals. It is important to note that cultured meat is real animal meat, so it should not be confused with current meat substitutes which are made from plants.* Participants were then asked how likely they were to consume

Table 1 Percentage Willing to Consume Clean Meat Pre- and Post-Information

Sample	Definitely Not	Probably Not	Unsure	Probably	Definitely
PRE-ATTITUDE					
US Student	8	11	23	37	21
US Adult	8	10	20	33	28
AUS Adult	7	16	18	38	20
POST-ATTITUDE					
US Student	6	7	14	34	39
US Adult	7	7	13	20	43
AUS Adult	8	7	24	36	25

Table 2 Percentage Exhibiting Positive Attitude Change by Condition

Sample	Environmental	Ethical	Health
US Student	41	36	42
US Adult	30	28	35
AUS Adult	26	24	37

clean meat (pre-test) using a 5-point Likert rating scale. Thereafter they were randomly assigned to one of three experimental conditions in which they learned about Health, Environmental, or Ethical benefits of clean meat (vs. conventional meat). Finally, participants were again asked how likely they were to consume clean meat (post-test) using the same rating scale.

Survey results

The survey results were highly similar across all three samples. Table 1 shows participant willingness to consume clean meat at pre- and post-test. As can be seen, learning more about the potential benefits positively increased attitudes towards clean meat consumption regardless of experimental condition. In particular, many more participants endorsed

the “Definitely” willing to consume clean meat category at post-test. However, as shown in Table 2, the Health condition had the largest effect on attitudinal change in all three samples.

Conclusions

As a method for future meat production, ex-vivo cultivated meat or clean meat is being seriously explored by startups around the world, with financial support from traditional meat companies. The findings in this study suggest a large consumer base would be present for ex-vivo cultivated meat products if they were to become commercially available. Moreover, commercialization efforts for clean meat production might be best served by emphasizing the health benefits of clean meat.

COMPETING FINANCIAL INTERESTS

The authors declare no competing financial interests.