

Cultured Meat

Cultured meat (CM), also known as cultivated meat or clean meat, represents a novel approach to protein production by growing meat cells in a laboratory setting.

Despite its potential to revolutionise the food industry by offering a more sustainable and ethical alternative to traditional meat, consumer awareness and acceptance of CM remains varied. Concerns about nutrition, safety, and perceived unnaturalness contribute to hesitancy in adopting this innovative food product.



Consumer segmentation

Country differences:

- Although sample sizes and demographics of respondents vary across studies, consumers from Spain (65%), Germany (57%), Italy (55%) are more open to accepting CM than those from Belgium (39%) and France (33%). Over half of Dutch consumers have been found to be willing to pay a premium for CM (58%).

Demographic factors effecting openness to CM:

- Younger, urban-dwelling individuals (particularly men) with higher education levels and a left-leaning political orientation are more likely to express interest.
- Familiarity with the concept and those with a strong sense of food curiosity are also more inclined to consider trying CM.
- Food allergies, being a locavore (focusing on eating 'local' foods), and having concerns about food technology inhibit willingness to try, buy, and pay a price premium for CM.

Three main consumer segments:

- **Plant Purists:** plant-based eaters tend to be positive about CM as an opportunity to reduce the environmental and animals welfare impact of meat consumption. However, they are unlikely to report willingness to consume it.
- **Omnivores:** incorporate both plant and animals foods into their diet but are likely to take ethical and environmental concerns into account. This group may be the most open to CM as they are searching for more responsible ways to consume meat.
- **Meat Lovers:** those devoted to traditional meat with its familiar taste and texture show limited intention to consume less meat. This group is likely the hardest to convince of CM.

Motivation and barriers

Replicating the familiar taste of meat is the biggest driver:

- The exact replication of taste, texture and eating experience, but without the negative consequences, is the biggest motivations for consumers to report that they will eat CM when it becomes available. To be successful, CM will need to convince consumers that it is in fact 'real meat' - just produced differently.
- Currently, consumers are sceptical that CM tastes the same as traditional meat and may perceive it as inauthentic.
- A study in which consumers tasted cultivated chicken (in Singapore, where this product has become available for sale), found that the product's tastiness was a more important factor in acceptance and intended repeat consumption, than whether it is integrated in a familiar meal.

Prosocial and health motivations play a secondary role:

- Prosocial motivations such as sustainability and animal welfare also play a role, especially among plant-based eaters.
- These motivations present a pathway to spark flexitarian and omnivore interest; while prosocial motivation may be less critical, many are searching for more responsible and high-quality alternatives to conventional meat, but find themselves priced out of premium meats.
- When it comes to healthiness, the findings are mixed. However, specific benefits that are appealing are: Free from antibiotics, added vitamins & minerals, reduced saturated fat, added omega 3.

Perceived unnaturalness of CM is the biggest barrier:

- Perception of (un)naturalness and concerns related to food safety and risk will likely be the most significant barrier to adoption. Terms like “lab-grown” and “artificial meat”, used by the media as well as very early publications, are loaded with negative associations and contribute to hesitancy.
- Communication from CM companies had also tended to focus on innovation.
- Fears, conspiracy theories, conservatism, phobias, disgust, scepticism and scientific mistrust are commonly cited arguments against eating cultivated meat.
- To a lesser extent, some consumers have concerns about whether cultured meat will in fact be better for the environment than raising livestock, due to the fact that it is seen as industrial.

Increasing potential for adoption - framing and interventions**The state of affairs:**

- To date CM is mainly positioned as a premium product or as a hybrid meat product (where it's combined with plant-based ingredients).
- If hybrid meat can be framed as the best of both worlds it presents an ideal solution for omnivores. However, it is currently perceived as ‘the world of both worlds’: a compromise between plant-based substitutes and CM.
- CM is not currently associated with exclusivity and premium quality, but with artificial, industrial food. Meat Lovers are not convinced by the taste and omnivores are less interested in expensive premium meats.

Positioning CM:

- Terms such as “CM”, “clean meat” and “cell-based meat” create more positive attitudes, while “lab-grown” and “artificial meat” are generally more negatively perceived. This needs to be further investigated in the different European languages.
- Framing CM as natural and emphasizing its similarities to conventional meat can enhance acceptance, while framing it as high-tech or lab-made decreases acceptance.
- Short-term interventions focusing on personal benefits such as health and taste have shown promise in increasing acceptance levels, more so than societal benefits.

According to consumer segmentation:

- Plant Purists: although plant purists may never become CM consumers, their support can be won by emphasising and proving the environmental and animal welfare benefits.
- Omnivores: they currently perceive organic meat as the best source of responsible meat but lack affordable options. Position CM as the affordable source of ethical and sustainable meat.
- Meat Lovers: this hard to reach group need to be convinced that CM is identical to traditional meat. They will likely respond best to narratives portraying CM as a modern continuation of the traditions and culture associated with meat, rather than its replacement.



Storytelling:

- Awareness and familiarity with the concept of CM is a predictor of acceptance, not necessarily because it creates a positive outlook but because it can lead to gathering knowledge about the innovation and its benefits.
- While consumers need to be more familiar with the process of producing CM, current communication emphasises science, innovation and guilt-free indulgence. This resonates with the cultural perception of meat as a commodity – which our society is moving away from.
- Instead, communication should focus on humanising the industry and building an emotional narrative. This should present CM as the smart and indulgent choice, not just the ethical option.

**Building trust:**

- Successfully introducing food innovations depends on trust. Consumers need to be convinced that CM is safe, healthy, tasty and ethical.
- The industry needs to respond to bad publicity by demystifying CM production.
- Currently scientists are fairly well trusted among consumers; they are perceived as both competent and caring. This makes them a suitable actor to provide education about CM.
- Food manufacturers are less trusted. Consumers believe them to be competent but profit driven. Manufacturers can improve their reputation by working more closely with authorities and demonstrating transparency.
- Conversely authorities are seen as caring but incompetent. They need to demonstrate that they can keep up with and effectively regulate developing innovations.

Taste Testing Events:

Organize taste testing events to allow consumers to sample CM products and experience their flavour and texture firsthand.

In the Netherlands, CM tastings have been approved and consumers have shown openness in trying it (at least once), as long as it has been approved by authorities for safety, and the testing is done in a controlled environment (with experts overseeing this process). In Singapore they found that tastings of cultured chicken at the world's first butchery to serve cultivated meat significantly boosted acceptance levels.

Extra resources:

[On-site sensory experience boosts acceptance of cultivated chicken](#)

[Review of factors affecting consumer acceptance of CM](#)

[The effect of information content on acceptance of CM in a tasting context](#)

[Consumers' perception of CM relative to other meat alternatives and meat itself: A segmentation study](#)

[Consumer Acceptance of CM: An Updated Review \(2018–2020\)](#)

[Perception of cultured "meat" by Italian, Portuguese and Spanish consumers](#)

[Consumer behavior towards cultured meat: A review since 2014](#)

[Most consumers in western Europe want alternatives to conventional meat, survey shows](#)