



BEEF WATCH

CULTURED MEAT

This Beef Watch edition will focus on cultured meat and its approval status in different countries.

What Is Cultured Meat (CM)?

Cultured meat is produced from animal cells that are grown in container known as a bioreactor. The process often requires a culture medium known as Fetal Bovine Serum (FBS) obtained from a dead calf. ⁽¹⁾

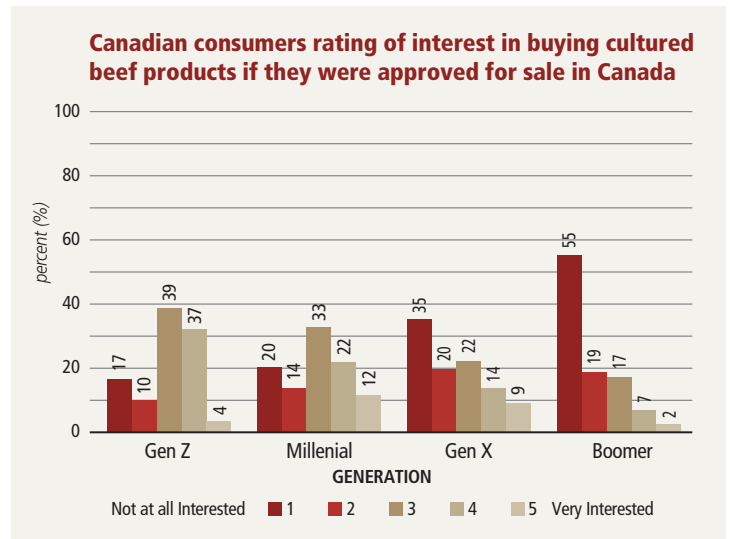


Photo of the ground beef patty made by Dr. Mark Post in 2013 at a cost exceeding US \$300,000 ⁽¹⁾

Cultured Meat (CM) in the Domestic and Global Market

- Canada has five registered start ups of cellular agriculture. The firm “Evolved meats” of Edmonton has received CDN \$2 million from Maple Leaf Foods and the global protein fund Big Idea Ventures. Their goal is to scale up cultured meat operations. ⁽²⁾
- Some companies are trying to find “serum-free” medium (FBS substitutes) because the cost can be very high. Between five and seven litres are required to make one kilo of muscle tissue. The price can also fluctuate widely depending on market conditions such as global meat demand. ⁽³⁾
- Many CM companies are focusing on the ground meat because it is more difficult to make other high quality meat products (such as a highly marbled steak). ⁽⁴⁾
- The CM process has significant energy requirements, and the process requires high volumes of single-use plastic materials that result in a larger amount of waste. ⁽⁴⁾
- A cultured chicken product is currently being sold in Singapore with regulatory approval.
- On November 16, 2022 the Food and Drug Administration (FDA) issued a Statement of No-Objection for the lab-grown chicken process of the American company Upside Foods. ⁽⁵⁾
- The FDA and the United States Department of Agriculture will jointly regulate the transition stage from cell culture to finished product.

- Consumer acceptance is influenced by many factors and CM may be perceived by some people as “unnatural”. The results of a recent survey of Canadian consumers is shown below. Acceptance is generally highest in younger people.



Regulatory Approval Process in Canada

- In Canada, the application of CM must be assessed by Health Canada with a pre-market approval process before it receives a “letter of no objection”.
- The website of Health Canada does not appear to contain information related to applications for approval of CM. If a letter of no objection is issued for CM, then its regulation in Canada will be a shared responsibility between Health Canada, the Canadian Food Inspection Agency and Environment Canada. Canada Beef will continue to monitor the evolution of cultured meats.

Resources

- (1) A. Khan. 2022. An introduction to Cellular Agriculture. CellAg.ca.
- (2) Evolved Meats. 2022. Cultivated Meat start up raises \$2 million in seed round funding. Newswire.ca.
- (3) Michail, N. 2021. New growth medium supplement for clean meat. FI Global insights.
- (4) Khan, T. 2022. From Culture Plate to Dinner Plate. The lingering promise of lab based meat. Technology and Networks.
- (5) Demetrakakes, P. 2022. Upside Foods gets FDA OK for Lab Chicken. Food Processing.