

Cultivated Meat 101

Cultivated meat or protein, also referred to as cultured, cell-based, or *in vitro* meat, is a real animal product created directly from animal cells. These primary cells are obtained through a one-time, small, and gentle collection. The technology then allows the cultivation of these cells without any further need for the animal. The cells are grown in a controlled environment called a cultivator (bioreactor), which, together with a nutrient-rich cultivation medium, mimics the internal conditions of an animal's body. The cultivation medium provides the cells with all the essential nutrients, vitamins, and other components they need to grow and multiply. It contains no animal-derived components, hormones, or antibiotics. The entire process takes place in a sterile, fully controlled setting, significantly reducing the risk of contamination. The resulting biomass is clean, high-quality, and precisely defined.

Why cultivated meat makes sense:

- Safety and quality
 - Because the process happens in a closed and controlled environment, cultivated meat is protected from bacteria, parasites, and other pathogens. Multiple layers of testing are used, including microbiological analyses, detection of pesticides, heavy metals, and other potential contaminants. The final product meets the highest food safety and quality standards.
- Diversifying the protein portfolio
 - Cultivated meat complements today's range of protein sources. Different types of proteins have distinct nutritional, sensory, and functional properties, and a more diverse offering allows for greater resilience and adaptability to varying market and consumer needs. Given the growing global demand for meat, cultivated meat also offers the traditional meat industry an opportunity to expand its portfolio. It can serve as an additional production line alongside conventional livestock farming attracting new consumers and supporting long-term competitiveness in an evolving market.
- Optimizing nutrition
 - A major advantage of cultivated meat is the ability to adjust its nutritional profile such as reducing saturated fat or increasing omega-3 fatty acids or iron content. This opens the door to healthier and more personalized food options.
- Ethics

- Only a very small sample of cells is needed to begin production. This allows for continuous cultivation of meat without further animal involvement, making it a truly ethical alternative.
- Sustainability
 - Cultivated meat has the potential to reduce the environmental impact of protein production. According to our Life Cycle Assessment (LCA), it significantly reduces land use and produces fewer greenhouse gas emissions.

The development of cultivated meat is a complex, multidisciplinary process that combines biology, engineering, and food science. One of the main challenges lies in creating stable and efficient cell lines that thrive in ex vivo conditions while meeting nutritional requirements. Equally important is the formulation of a cultivation medium that is free from animal-derived components, cost-effective, and nutritionally balanced. Another key task is the optimization of bioprocesses that enable the transition from laboratory-scale to industrial production without compromising quality or efficiency. Scalability has long been one of the greatest challenges, but it's one we have also managed to overcome.

At BeneMeat, we actively address all these challenges. Thanks to our technological approach and in-house expertise, we have developed solutions that bring cultivated meat closer to commercial reality as a safe, sustainable, and ethical protein of the future.

BeneMeat

BeneMeat is a biotech company, part of the BTL Group, focused on developing scalable and efficient cultivated meat production technology. Since 2020, the company has developed deep, end-to-end expertise across biology, chemistry, hardware, software, and commercial implementation of cultivated meat. With 100+ R&D experts, BeneMeat is building the complete technological ecosystem, from versatile cell line development to scalable, reliable, and cost-effective manufacturing solutions. The company is prepared to support manufacturers through all the key challenges of bringing cultivated meat to market: technical, legal, regulatory, and commercial. BeneMeat is the first in the EU to be registered as a producer of cultivated meat for pet food (Autumn 2023), proving our regulatory leadership in this space. "We are not just another company in cultivated meat, we are the technology partner shaping its future."

For more information, contact: media@benemeat.com