

## **CULTURED MEAT AND CELL AGRICULTURE: TECHNIQUE AND CHALLENGES**

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Cellular agriculture focuses on the production of agrarian goods from cell cultures with the help of different biotechnological practices, such as: tissue engineering, molecular biology, and synthetic biology to create and develop new methods for producing proteins, fats and tissues that will well be derived from traditional agriculture. Much of the industry is focused on animal products such as meat, milk and eggs, which are produced in cell culture. [1] Controlled conditions in an in vitro production system cannot be achieved with traditional animal husbandry and therefore allow for a safer and healthier product [2].

In their work, Tuomisto et al [4] showed that the production of 1000 kg of cultured meat, compared to conventionally produced meat, uses about 745% less energy, 78% less greenhouse gas emissions, 99% less land. It should be noted that no reputable source knows the exact amount of economic and environmental benefit cultured meat would provide.

Although cellular agriculture is presented as a greener and cheaper way of food manufacturing, many people are still cautious of this technology. In the systematic review “Consumer acceptance of cultured meat” findings point to the importance of framing as a cultural and economic phenomenon, public perception and marketing as well as trust and openness of companies [5].

The article outlines the challenges for the future of cultured meat. Much of the research and development is done by privately owned companies, and transparency of food production technology is a big obstacle in public acceptance as it is. Once cultivation of meat becomes more cost-effective, it will be necessary to decide who will regulate the safety and standardization of these products. Agricultural production accounts for a small share of the world's gross domestic product, but it employs nearly 30% of all workers worldwide. All of this leads to muddled public perception and complicates transition to the cultured foods. By the time cellular agriculture reaches our counters future of classical agriculture need to be addressed.

### **References:**

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