Cellular Agriculture Europe

CELLULAR AGRICULTURE: A STEPPING STONE TO A SUSTAINABLE FUTURE

INTRODUCTION

Cellular Agriculture Europe is a coalition of companies that are committed to playing their part in building a more resilient and sustainable future. We are entrepreneurs, innovators, and food lovers, who develop an alternative to the current production process of meat, fish or dairy products.

By growing cellular agriculture products directly from their building blocks, the cells, rather than the entire animal, our objective is to allow consumers to maintain the qualities of the food they know, while transitioning to a sustainable food system.

A POWERFUL NEW TOOL

The European Green Deal boldly addresses the existential threat posed by the loss of biodiversity and climate change. The Farm to Fork Strategy, which is at the heart of the Green Deal, acknowledges the challenges of the current agricultural production system and calls for systemic reforms to create a fair, healthy, and sustainable food system. As the world's population is increasing rapidly, it is clear that our food system is not suitable for feeding the world population of today and certainly not that of the future.

To drive the inclusive transition to a sustainable and resilient future, we must collaboratively integrate cellular agriculture with animal agriculture and current food systems. The successful introduction of 'cellular agriculture' adds a powerful new tool to achieve the goals in Horizon Europe and the Farm to Fork Strategy and, in combination with reforms to conventional agriculture practices, our industry will play an integral role in the success of the European Green Deal.

WHAT IS CELLULAR AGRICULTURE?

Originally pioneered in Europe and now with 80+ companies worldwide, cellular agriculture can offer meat, fish, or dairy products grown in a controlled environment.

The development of cellular agriculture is motivated by the need to develop a sustainable production system, addressing the overuse of antibiotics, food and water safety, environmental footprint, and animal welfare.

The production process is based on the well-known "cell culture technology" that has been used in Europe for decades, for example for growing yeasts for bread baking or for the production of rennet in cheese. Beginning with a small sample of animal cells and nurturing them in a nutrient rich growth medium, the cells grow and develop into muscle, fat or other tissues to form meat and other animal products.

It is commonly referred to as "cultured meat" or "cultivated meat" and is referenced among innovations to support within Horizon Europe as the Strategy proposes to spend budgets of EUR 10 billion on food research and innovations, with a key area of research aimed at "increasing the availability and source of alternative proteins."

WHAT ARE THE EXPECTED BENEFITS?

Cellular agriculture would help the EU meet the health and sustainability goals outlined in the Farm to Fork Strategy, in particular:

LOW CLIMATE FOOTPRINT

- A recent study concluded that cultivated meat has the potential to reduce land use by 95% and water use by 78% when compared to conventional meat production methods. [1]
- The same study concluded that cultivated meat has the potential to produce only a fraction of the greenhouse gases typical of conventional agriculture operations.[2]
- Cellular agriculture products can be produced in local facilities, whereas the EU is currently reported to be importing €3B in Brazilian beef associated with deforestation of the Amazon rainforest.[3]

HEALTH & NUTRITION

- Cellular agriculture products can be produced without harmful antibiotic residues, microplastics, or heavy metals.
- Cellular agriculture products can be produced without animal slaughter and in sterile conditions that significantly reduce the risks of foodborne and zoonotic illnesses from microbial pathogens like E. coli, Salmonella or Campylobacter.

ANIMAL WELFARE

- Concentrated feeding operations confine billions of animals leading up to slaughter. Our products require only a small sample of cells that can be taken from live animals without slaughter.

[1] https://cedelft.eu/wp-content/uploads/sites/2/2021/04/CE_Delft_190107_LCA_of_cultivated_meat_Def.pdf
[2] Ibid
[3] https://www.thebureauinvestigates.com/blog/2019-09-30/eu-imported-3bn-worth-of-brazilian-beef-from-companies-linked-to-deforestation

WHAT ARE THE EXPECTED BENEFITS?

SUSTAINABLE SEAFOOD

- Cell-culturing can offer the nutritional benefits of seafood without harmful bycatch, microplastics, mercury, or the questionable labor practices found in some fisheries.
- Endangered species that are difficult to farm, like Bluefin Tuna, can be cultured to meet demand without increasing pressure on wild stocks.
- Cultivated seafood can be produced everywhere and does not depend on access to specific bodies of water.

RESILIENCE IN A CHANGING CLIMATE

- Cellular agriculture products can be grown in controlled facilities that look similar to beer breweries or yoghurt production facilities and are less susceptible to drought, flood, and wildfires.
- Cellular agriculture producers will be able to reduce waste and vulnerability in the supply chain by building facilities near consumer demand. Cultivated meat, poultry, seafood, and other animal products can be produced from start to finish in urban or rural areas without dependency on global trade and with less greenhouse gas (GHG) emissions of transportation of food from one place to another.
- Cellular agriculture can contribute to strengthening Europe's food self-sufficiency and its competitiveness in the global agri-food industry, which is one of its areas of excellence.

INCORPORATING CELLULAR AGRICULTURE WITHIN THE CURRENT FOOD SYSTEM

No single solution will solve our food system crisis.

Cultivated meat should co-exist and complement the production capacity of sustainable methods, including sustainable livestock farming, to meet the growing market demand for meat. It can be successfully integrated with current food systems through supporting and investing in local producers, empowering communities, and giving existing farmers the opportunity to forge new revenue streams alongside conventional production. Incorporating 'Just Transition' practices while collaboratively integrating cultivated meat with animal agriculture can ensure economic security and social equity for farmers as the sector transitions to become a more sustainable and nature balanced overall system.

Cellular agriculture will not replace conventional animal agriculture. Yet, it can reduce our dependence on destructive imports and supplement sustainable animal farming efforts to meet growing demand across the continent. This technological innovation could help to successfully meet the bold goals of the Farm to Fork Strategy.

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