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Lab-Grown Meat, the Right to Adequate Food, and the Climate Crisis

by Katie Morris & Scarlett Swain | 12 November 2025



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Meat production has contributed to – and will be impacted by – the climate crisis, necessitating the exploration of alternatives to traditional animal agriculture. A potential solution is the production of meat through the cultivation of animal cells in a controlled laboratory environment. This blog post highlights some issues lab-grown meat raises in relation to the core contents of the right to adequate food, as protected under [Article 11 of the International Covenant on Economic, Social and Cultural Rights \(ICESCR\)](#). As stipulated by the Committee on Economic, Social and Cultural Rights, food must be available, accessible, and of sufficient quality, the latter of which encompasses adherence to dietary needs, freedom from adverse substances, and acceptability to the consumer and their culture.

Availability of lab-grown meat will be dictated by states' regulatory approaches, which currently range from approval for consumption by pets ([UK](#)) and humans ([Singapore](#) and [Israel](#)), to bans on its production, sale, and import ([Italy](#)). Governments may increasingly invest in lab-grown meat to strengthen national food security, [drawing on lessons from](#)

the COVID-19 pandemic. Cultivation provides a more stable alternative to traditional animal husbandry, which is vulnerable to disease, stress, and uneven growth. The technology offers a promising protein source for land-scarce countries like Singapore, where less than 1% of land is arable. However, the growing adoption of lab-grown meat in high-income nations may reduce their reliance on livestock and animal feed imports from low-income countries, widening global socio-economic inequalities. Globally, states will need to support small-scale farmers during this transition, such as through retraining programmes.

The total cost of the first lab-grown hamburger, unveiled by Post in 2013, exceeded \$300,000. In 2019, Post stated that the same burger could be made for \$9.80. The high production costs are partially attributed to the use of foetal bovine serum – the blood of an unborn calf – as the cell culture medium. Producers are currently exploring cheaper, serum-free media formulations comprised of plant or fungi-derived ingredients. Otherwise, lab-grown meat will remain a novelty, or a means of alleviating one's eco-guilt, restricted to the affluent. Tubb and Seba estimate that lab-grown meat will be ten times cheaper than traditional meat by 2035. Conversely, the rise of lab-grown meat may inflate the price of traditional meat.

A departure from animal husbandry could deliver improvements in relation to the right to health by reducing the transmission of zoonotic diseases. Moreover, lab-grown meat can be engineered to contain lower levels of cholesterol compared to traditional meat. However, producers may compromise quality in pursuit of affordability by turning to lower-grade ingredients.

Lab-grown meat has been framed by some as 'victimless meat', an inaccurate label given its reliance upon animal cells and, for now, foetal bovine serum. Whilst a review by Behera and Adhikary suggests that lab-grown meat is more acceptable to meat eaters than ethical vegans/vegetarians, it may equally face resistance from meat eaters on account of its yellow colouring due to a suppression of myoglobin expression. Meat produced through cultivation may need to be coloured to better resemble traditional meat, which may inflame consumers' perceptions of its unnaturalness. A further pressing issue flagged by Mariano *et al.*, is food fraud, encompassing attempts to pass lab-grown meat as traditional meat and vice versa.

Verbeke *et al.*'s study unveils British participants' fears of a lab-grown Sunday roast becoming the norm, raising the question as to whether state interference with access to culturally acceptable food is justifiable in the interests of sustainability and the well-being of future generations. Further, states' obligation to make 'full use of technical and scientific knowledge... to achieve the most efficient development and utilization of natural resources' under Article 11(2) arguably extends to the exploration of lab-grown meat as a more sustainable alternative to traditional farming. States exploring lab-grown meat will also need to be sensitive to the values Indigenous Peoples attach to food, preserving deeply embedded cultural practices where possible.

In sum, lab-grown meat could play a key role in meeting the escalating global demand for meat amidst the climate crisis. However, robust national and international regulation is necessary to ensure the technology does not create more problems than it seeks to solve.

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Katie researches socio-economic rights, such as the right to housing and the right to food, from a care ethics perspective. She is interested in exploring care as a means of redressing systemic socio-economic inequalities on the national and international level.



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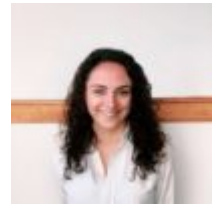
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Scarlett's research focuses on Intellectual Property laws, specifically patents, biotechnology, cellular agriculture and utilitarianism. As climate change presents one of the most urgent challenges of our time, with agriculture and food consumption recognised as primary drivers of environmental degradation, technological innovation becomes essential for achieving environmental sustainability.



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