

State of the art and business of cultivated meat

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Resumen

Cultivated meat is a new and upcoming technology to produce meat through cell and tissue culture. Tissue specific (muscle, fat) stem cells are retrieved from farm animal species such as cows, pigs or chicken and grown to large numbers in a process similar to fermentation. Subsequently, these cells are triggered to form muscle or fat tissue as a basis for a meat product. In theory, the resulting tissue is the same as the original tissue retrieved from the donor animal, with the added advantage that the production method should be sustainable, relative to traditional livestock agriculture. While the technology is advancing and even starts to include whole cuts of meat, more than 160 startups are ready to scale up their activities in preparation for the market. Scaling up production is still an arduous and costly endeavour because the ingredients are still expensive and the technology for scale up has not been applied yet for the cells that are typically used in this process. Several initiatives are taken to reduce the cost of ingredients, for instance by exchanging pharma-grade ingredients with food grade analogues. Although these new products qualify as 'novel food', various regulatory approvals have been granted in Singapore, US and Israel. In the long run, cultivated meat may be a threat to conventional meat production, but this will not happen suddenly. Building the necessary production capacity will take decades. This innovation may offer a solution to the growing global demand for meat with our limited planetary resources.