

Cell-Cultivated Meat - Meat for Africa

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Abstract

More people are eating more meat. An increase in intensive livestock farming and meat production is responsible for transforming additional natural vegetation to monoculture crop production with a concomitant decline in wildlife habitat and biodiversity, excessive water use and greenhouse gas emissions. However, getting people to change their eating behavior is more than challenging. Cell-cultivated meat has the potential to give people what they want to eat, namely real meat, while at the same time mitigating against climate change and conserving wildlife and biodiversity. Small muscle and fat biopsies are collected from young animals and the cells processed in a cell culture laboratory. Cells are separated into fat cells, connective tissue cells and muscle cells and banked down in Liquid Nitrogen refrigerators. Further processing includes cell-mass production in bioreactors, cell maturation, followed by the production of both hybrid and whole-cut meat products. The Good Meat Co has been serving cultivated chicken meat to consumers in Singapore since 2021, the only country that currently has regulatory approval for the production and sale of cultivated meat. The US FDA recently gave its approval for the cultivated chicken meat production-process at UPSIDE Food's pilot production plant in San Francisco, California. Some of the largest meat companies in the world, such as JBS of Brazil and Cargill and Tyson of the USA have invested in cultivated meat production facilities and companies. This presentation will demonstrate how convergent multi-disciplinary research and development, involving multiple scientific disciplines, such as biochemistry, tissue engineering, biotechnology, bioengineering, food science, , animal science and plant production, including government and industry participation, is required before cultivated meat reaches mainstream animal protein production and supply. Mogale Meat Co, a start-up cultivated meat company, is collaborating with Stellenbosch University, Tshwane University of Technology and the University of KwaZulu-Natal, with the purpose of developing the cultivated meat ecosystem in South Africa. Cultivated meat is destined to contribute significantly to the conservation of biodiversity and wildlife in southern Africa, further mitigating against the effects of climate change, all the while giving people what they really want to eat, namely meat.

PRESENTER BIOGRAPHY: PAUL BARTELS

Paul qualified as a veterinarian and went on to complete his Master's degree in Zoology at the University of Pretoria. Paul wBRC, focusing on the collection, banking and use of cells for the conservation of endangered species. The government saw the collection as a national asset resulting in the wBRC being acquired from the EWT and now resides with SANBI. Paul is the recipient of the following awards: Mazda Wildlife Fund top conservationist of the decade; Wildlife and Environment Society of SA (WESSA) lifetime achievement; NSTF's Science Engineering & Technology Award; BMCE Bank of Africa's African Entrepreneurship, Morocco. Paul is a past board member of ESBB and currently the ESBB Ambassador for Africa. Paul was the founder of Mogale Meat, the first cell-cultivated Beef and Game Meat start-up Co. Paul is the founder of the non-profit, MeatOurFuture, with the aim of developing the cultivated meat ecosystem in Africa.