

Imminent launch of Africa's first chicken meat made in a petri dish

Stem-cell and skeletal-muscle research emerging from the laboratories of biotechnology researchers at the University of KwaZulu Natal's School of Life Sciences has played a key role in the release of Africa's first cultivated chicken meat as part of a partnership aiming to provide sustainable and affordable animal protein to meet the dietary needs of Africa's growing population.



Source: 123RF

Using an advanced cell-culture process, a consortium known as MeatOurFuture (MOF) that includes the University of KwaZulu Natal's (UKZN's) professor Carola Niesler and postdoctoral researcher Dr Celia Snyman with colleagues from Tshwane University of Technology, Cryowild and cellular food technology company Mogale Meat has applied cultivated meat technology to develop a chicken-breast prototype in only eight months.

This effort is part of MOF's participation in the global \$15m XPrize Feed the Next Billion competition. In the three-year competition, it is the only semi-finalist from Africa pitted against 30 other international teams to produce a chicken or fish alternative that outperforms conventional poultry or fish meat production in terms of environmental sustainability, animal welfare, nutrition, and health, while meeting consumer taste and texture preferences.

Electing to work with chicken as the most widely eaten meat worldwide, and particularly in Africa, the MOF group has met the competition goal of developing its prototype and is on track to compete late in 2022 when 10 finalists will be selected. The resulting chicken breast comprises real chicken muscle and fat cells blended with a mushroom matrix.

"This has been an amazing team effort, said Niesler, an associate professor of biochemistry with more than 20 years' experience in stem-cell research and application.

Stem-cell knowledge at the core of prototype

Spearheaded by Dr Paul Bartels, the MOF group, a registered non-profit organisation and partnership mobilised cell-

cultured meat production is using CryoWild's biobanking platform, UKZN School of Life Sciences' skeletal muscle and fat stem cell biology expertise, Tshwane University of Technology's Biotechnology and Food Technology edible biomaterial chemistry expertise, and Mogale Meat's end-to-end technology platform.

Snyman, who has extensive primary culture and stem cell knowledge has contributed significantly to the realisation of this cultivated chicken meat and plays a key role in mentoring young scientists within Mogale Meat.



Japanese scientists work up an appetite for lab-grown Wagyu beef

Rikako Murayama 8 Oct 2021



The MOF efforts are part of the global momentum towards technologically driven and sustainable sources of nutritious, sustainable animal protein to contribute to food security and the alleviation of the environmental impacts of conventional meat production. As part of its remit, MOF aims to develop a framework for training scientists, engineers and food technologists to advance cell-cultured meat technologies for Africa.

Aiming to make the product accessible throughout Africa as the population and the demand for nutritious protein grows, the company is exploring unique production plants that would allow meat to be cultivated where people are. Current challenges to cultivated meat production include reducing the cost of manufacturing the meat at scale and navigating regulatory approval of this novel means of production.

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