LAB-GROWN KANGAROO MEAT: IT'S WHAT'S FOR DINNER?

An Australian startup's efforts to culture meat from kangaroo tissue hints at a future where scientists cultivate exotic fare for adventurous eaters

George Peppou, a former chef and co-founder of VOW, a lab-grown meat startup, plated a dumpling made of kangaroo meat cultured from a tissue sample. **PHOTO:** MIKE CHERNEY/THE WALL STREET JOURNAL

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In a school cafeteria kitchen in the Sydney suburbs, George Peppou recently steamed a trio of dumplings with a unique filling: ginger, coriander, green onion and lab-grown kangaroo meat.

Mr. Peppou's startup, called VOW, took four weeks to produce a few grams of kangaroo in a lab after obtaining a tissue sample from a farm where wild kangaroos were culled. Other companies have cultivated beef, chicken and tuna, but Mr. Peppou's effort illustrates the broader potential of lab-grown meat: It could turn exotic, hard-to-find fare into routine meals for adventurous meat eaters.

“Nature has created food secrets and animals that were never appropriate for us to domesticate,” said Tim Noakesmith, 24, who founded VOW with Mr. Peppou and most recently worked at hearing-implant giant Cochlear Ltd. Consumers could one day dine on a “Galapagos tortoise burger, but without any Galapagos tortoises needing to be harmed,” Mr. Noakesmith said.

Kangaroo meat, which is lean, high in iron and zinc, and harvested from the wild, is readily available in big Australian supermarkets. But it’s more difficult to find and more expensive overseas—which could change if kangaroo is cultivated in labs world-wide.

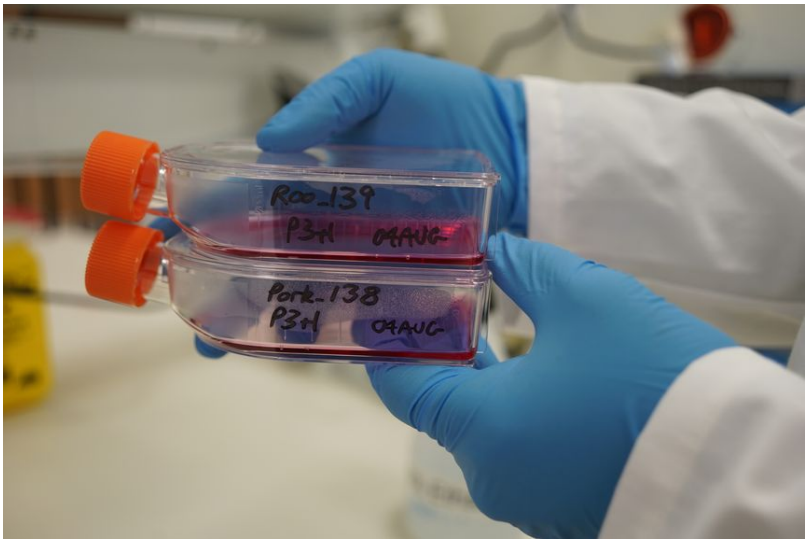
“This is, as far as we know, the first time someone’s gone from an undomesticated land animal to cultivated meat,” said Mr. Peppou, 28, who has an undergraduate degree in biochemistry and previously worked as a chef.

Mr. Peppou, left, and Tim Noakesmith open a liquid-nitrogen container where they store kangaroo and pork cells.
PHOTO: MIKE CHERNEY/THE WALL STREET JOURNAL

A new generation of plant-based burgers, which mimic real meat by combining plant proteins with starches and sometimes appear to bleed, are already available in stores and restaurants.

Meanwhile, startups like Finless Foods, Memphis Meats and Aleph Farms are investing in lab-grown meat and fish—but more work is needed before their products are ready for consumers.

One problem is that meat cells must grow in a nutrient-rich solution. What's often used now is fetal bovine serum, which is expensive. Also, it comes from the fetuses of pregnant cows at the slaughterhouse, which some view as inconsistent with the supposed sustainable, cruelty-free benefits of cultured meat. Entrepreneurs, including another Australian company called Heuros, backed by Australia-based Blackbird Ventures, are trying to grow meat cells without the serum.



Mr. Peppou holds the flasks in which VOW grows new kangaroo and pork cells. **PHOTO:** MIKE CHERNEY/THE WALL STREET JOURNAL

A related challenge for growing meat from different species is that a method that produces cells from one animal might not work as well on another, says Meera Zassenhaus, an associate at New Harvest, a Brooklyn-based nonprofit that funds research into lab-grown meat. "The cells of fish behave a little bit differently than bovine cells, which behave a little bit differently than pig cells," Ms. Zassenhaus said.

Whether consumers would spring for lab-grown kangaroo or other unusual meats is also uncertain. Clive Phillips, an animal-welfare professor at the University of Queensland, co-authored a study published in 2017 that asked nearly 700 people about their attitudes to "in vitro meat." The survey found that Americans would be more likely to eat lab-grown horse or dog meat

than actual horses or dogs. Still, exotic lab-grown fare is likely to be a niche market, and companies are more likely to pursue meat with a broader appeal, given the costs associated with starting this kind of business, he said. “I think this is going down the route of replacing the beef patty,” he said.

VOW, which used fetal bovine serum for its first batch of kangaroo, estimates it would currently cost about 2,000 Australian dollars to produce a kilogram of kangaroo, or more than $600 a pound. A kilogram of kangaroo mince sells for A$10.50 in Australian grocery stores.

The startup is hedging its bets: It previously grew pork and plans to experiment with different species in the near future. For now, it’s renting lab space in a private school, where vials of kangaroo and pork cells are stored in liquid nitrogen and meat is grown in a closet-sized incubator.

The two founders have invested A$50,000 into VOW, and received a A$25,000 grant from the New South Wales state government.

“The work they’ve been able to pull off on the budget they’ve had, even in the past few months, is really impressive,” said Sarah Nolet, general partner at Tenacious Ventures, a new venture-capital firm in Australia that is considering investing in VOW.

The stakes were high for Mr. Peppou’s dumplings, which he prepared as a demonstration for a reporter. The lab-grown kangaroo looked more like mince, not steak chunks, and was mixed with textured vegetable protein to add structure. Once the dumpling had steamed, Mr. Peppou plated it with a radish garnish and an Australian finger lime on the side.

Mr. Peppou didn’t publicly eat the lab-grown kangaroo because it’s not yet approved by local regulators, and he worried that doing so might be inappropriately promotional. Instead, the dumplings went into a fridge, where they will be monitored to gauge shelf life of the lab-grown kangaroo. As a chef, Mr. Peppou believes there is room for improvement: he found the meat to be crumbly. But he was encouraged to get a whiff of the kangaroo’s distinct gamey aroma while preparing the dumplings.

Mr. Peppou packs the lab-grown kangaroo meat into dumplings in a cooking demonstration in a school cafeteria.
PHOTO: MIKE CHERNEY/THE WALL STREET JOURNAL

"Even through all the ginger and coriander and spring onion, there was still that gamey note," he said. "The fact that it retained the properties of the original animal is exactly what we wanted to see."

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