

Taste testers sample \$325,000 test-tube hamburger funded by Googler



A hamburger made from beef grown in a laboratory from cattle stem cells is cooked by chef Richard McGeown during the world's first public tasting for the food product held in London, Monday Aug. 5, 2013. Credit: AP

At a media event in London on Monday, taste testers [took a bite](#) of the world's most expensive hamburger, a five-ounce patty that cost \$325,000 to grow in a lab.

Researchers at [Maastricht University in the Netherlands](#) produced the synthetic meat by placing stem cells extracted from the shoulders of cows in a nutrient broth. Google co-founder Sergey Brin funded the project.

After it was thawed and [fried in a little sunflower oil and butter](#), the test tube burger earned rave reviews such as "close to meat" and "like meat."

But more important than the flavor and mouthfeel today is the long-term potential of synthetic burgers, hot dogs and chicken nuggets to help feed a rapidly growing world population with fewer resources, environmental impacts, health risks and ethical quandaries.

The belief is that eventually synthetic meat could be produced for far less than the conventional variety, as it will require considerably less acreage and manpower. Moreover, with the world population projected to surpass 9 billion by the middle of the century and a rapidly emerging middle class around the globe, some researchers believe the surging demand for meat could simply outstrip the ability of livestock farmers to provide it.

In part because synthetic beef doesn't [burp or fart methane](#), unlike real cattle, scientists at [Oxford University and Amsterdam University](#) estimate that lab grown meat could reduce greenhouse gas emission by up to 96 percent over traditional methods. In addition, it would require just 1 percent of the land and four percent of the water used in conventional livestock farming, the [researchers found](#).

“There are basically three things that can happen going forward,” Brin said in a statement. “One is that we all become vegetarian. I don’t think that’s really likely. The second is we ignore the issues and that leads to continued environmental harm, and the third option is we do something new.”

“Sometimes when technology comes along, it has the capability to transform how we view our world,” he added. “When technology seems like it is on the cusp of viability and if it succeeds there, it can be really transformative for the world.”

The other big benefit — and the most important one for some — is that no animals are killed or tortured in the process. That potentially provides people who are vegans and vegetarians for ethical reasons another dietary option. Growing meat in a lab also reduces the odds of E-coli, Salmonella and similar contaminations.

These are the key reasons why People for the Ethical Treatment of Animals has been funding in vitro meat research and has offered a \$1 million prize to the first scientists to bring cultured chicken meat to market.

In an interview with The Chronicle, PETA President Ingrid Newkirk applauded the event on Monday.

“This taste test today will bring much more business interest, as companies see it is the wave of the future, the food of the future,” she said. “If you have a kind bone in your body and understand what goes on in factory farming ... you will rejoice if animals don’t have to go through that.”

Still, reaction to synthetic meat is mixed, threatening to divide the liberal flank between those focused on the promises above and those who see it as science run amok or a distraction from more practical approaches. The term “[Frankenburger](#)” was already making the rounds on Monday. So was [Googleburger](#) (although no privacy implications were immediately apparent).

Greenpeace argues that in vitro meat is the wrong way to address the environmental degradation caused by livestock farming.

“Our food system needs fixing, but we can’t fake our way into the solutions,” the environmental organization said in a statement. “Synthetic meat distracts agricultural research and funding away from ecological farming, the real solution to the disastrous livestock model that causes environmental and socioeconomic crises and does not meet the dietary needs of the global South.

“Greenpeace promotes ecological farming as the only viable method to ensure healthy farming and healthy food for today and tomorrow by protecting the soil, water and climate, promoting biodiversity, and not contaminating the environment with chemical inputs or genetically modified organisms,” it added.

Newkirk, however, stressed that synthetic meat should not reside in the same category of concern as genetically modified foods.

“There’s nothing genetically engineered here, this is real meat produced in a cleaner, more efficient way,” she said. “There is no genetic tinkering.”

Not surprisingly, there has also been concern among traditional livestock farmers.

While Monday’s event was the first public taste test of a synthetic hamburger, it’s hardly the only research underway in this realm. More than a decade ago, NASA funded a group of scientists who managed to coax fish cells to grow into something like fish fillets. Meanwhile, [Modern Meadow](#), formed by researchers at the University of Missouri, eventually wants to sell both lab-produced leather and meat.

But don’t expect to see synthetic meats in the grocery store anytime soon. Lead researcher Mark Post, a profes-

sor at Maastricht, said commercial production could be 10 to 20 years away, as scientific, manufacturing, regulatory and marketing hurdles remain.

A key technical challenge is the inability to produce synthetic fat, blood vessels and other vascular structures that give a ribeye steak, or even a burger, its mouth feel and taste.

The consensus among the testers on Monday was that the texture of the synthetic meat resembled a real burger, but that the lack of fat detracted from the overall flavor. As any chef or serious barbecuer will tell you, fat is where the taste comes from.

That all suggests the first arrivals on the market will be meats of the processed variety, like hamburgers and hotdogs, whose tastes can be masked or enhanced with mustard, ketchup and the like. In other words, don't hold your breath for filet mignon.

To see the taste test, check out the video below: