

World's Most Advanced Lab-Grown Meat Facility Opens In California

As people become more aware of the devastating environmental cost of animal agriculture, there's been a veritable explosion in the number of plant-based alternatives hitting the shelves, with some promising vegan "meat" that's virtually indistinguishable from the real thing. One company named Upside Foods is ready and waiting to serve up an even more authentic experience: real meat, but with none of the agriculture.

On Thursday, November 4, the company opened a vast facility in Emeryville, California – 16,154 square meters (53,000 square feet) of renewably-powered vats and tubes going by the name of the Engineering, Production, and Innovation Center, or "EPIC". It's been billed as the first of its kind, and the company says it's ready to start producing 22,680 kilograms (50,000 pounds) of cultured meat for commercial scale – just as soon as it's legal in the US.

"Our meat production method is inspired by nature's basic principles: start with one cell and give it the proper nutrients to allow it to grow and multiply," reads the website of Upside Foods, a so-called "cultured meat" company headquartered in Berkley, California. Adding to those "basic principles", however, is the company's CEO Uma Valeti's history as a cardiologist: he was inspired to start Upside, he told *The Economist*, by "the idea of injecting stem cells into the human heart" to help it heal after a heart attack.

"We're committed to completely detaching our production process from animal slaughter," the company says. "Our aim is to bring animal component-free products to market as soon as we can. We feed the cell a range of nutrients (amino acids, sugars, trace minerals, and vitamins) normally found in food and compositionally similar to what develops organically in animal body, just in a different format". The initial cells themselves are obtained via "a variety of methods," the site says, including "biopsies from living animals, eggs, fishing, and recently slaughtered animals who were already a part of the food system."

"We also expect that our cells will be capable of indefinitely self-renewing, so that we won't need to return to the animal for subsequent samples," the company adds.

Upside Foods is not shy about the eco-friendly credentials of lab-grown meat over its traditional alternative: at scale, the website notes, "cell-cultured meat may require up to 90% less land and water, and emit up to 90% fewer greenhouse gases." Research tends to agree: the benefits of cultured meat are "enormous," found one analysis from April 2021; another from 2019 noted that switching to lab-grown meat could see "[greenhouse gas] emissions ... fall by 78-96%, land use by 99%, water consumption by 82-96% and energy consumption by 7-45% compared to those from the conventional farming depending upon the type of meat."

And it gets better: not only could the new meat reduce carbon emissions, but it could potentially even reverse them: "instead of using larger land for the necessary agricultural crops required for livestock farming," proposes the 2019 paper, "large areas could be released and redeveloped or used for other purposes such as carbon capture."

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