

# Can I get a coffee – but hold the coffee, please

*Compound Foods has raised \$4.5M in seed funding, giving it \$5.3M in total funding to-date, for its synthetic biology-based technology that makes coffee without coffee beans.*

Temps de lecture : minute

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Backers of the firm include *Lowercarbon Capital, Petri Bio and Maple VC*. We've seen the rise of meatless *meat* products, and fishless *fish* – but what about beanless coffee? Compound Food's novel approach aims to recreate the molecular structure of traditionally produced coffee, however with fewer resources and less environmental impacts.

We've *previously* pointed out the climate change and its impacts, such as lower rainfall, are causing short-term disruptions to regional coffee production, and having a knock-on effect on global supply. In the face of climate-driven decreasing crop yields, efforts to create a synthetic replica could foreshadow the future of coffee in the long-term.

## Climate concerns

Coffee sits among the most climate-vulnerable crops, being susceptible to *extreme* weather conditions such as drought and frost, as well as rising temperatures. Other climate-related impacts such as pollinator loss from collapses in bee and butterfly populations are also *undermining* global coffee production, and affecting other major crops including soybean, cashews and strawberries. Limited supplies are also hiking up the *costs* of

the crop, with prices reaching an almost seven year-high earlier this year.

It's worth noting around 60% of wild coffee varieties are under threat of extinction from climate change, deforestation, pests and the spread of fungal pathogens, as a recent *study* found. Arabica – the world's most popular coffee strain – has also entered the IUCN Red List as an endangered species. Given wild species are crucial for the *development* of future coffee crops, this could risk the longevity of global coffee production.

## Grounds for success

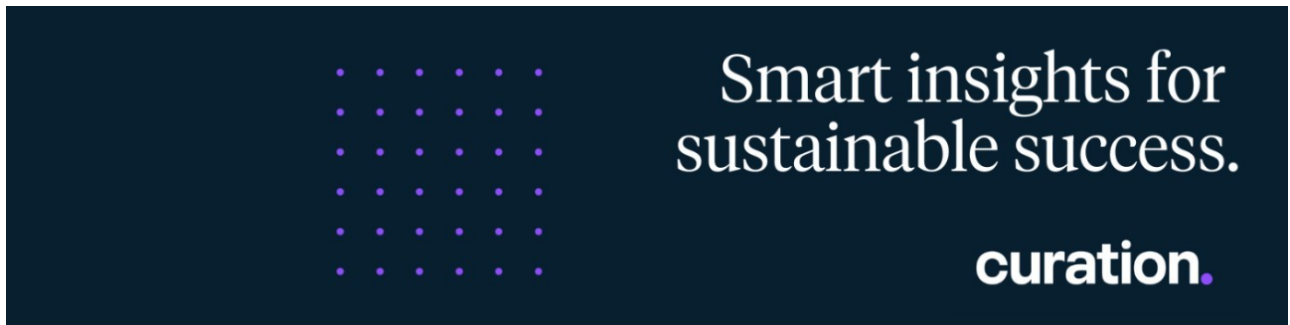
The eco-conscious start-up boasts strong environmental credentials for its production method, which *generates* one-tenth of the carbon emissions of traditional methods, and requires a tenth of water used conventionally (roughly 140 litres across the production chain for a single cup). Coffee is the fifth-highest *polluting* crop, and large-scale conventional plantations are often linked to habitat destruction, deforestation and pesticide overuse.

## How does it work?

The novel approach relies on *fermentation technology*, a method quickly gaining traction in the alternative protein sector. Using sustainably grown microbes, the firm mimics conventional processes used at a coffee farm, including roasting and brewing. Compound Foods is working to develop a variety of flavours and aromas, as well as different caffeine levels.

The adoption of similar molecular-based food technology is gaining traction. Seattle-based *Atomo Coffee*, for example, is developing a “coffeeless coffee” from upcycled ingredients such as watermelon seeds and seed husks, while German company QOA is utilising precision fermentation to create a chocolate *alternative* without using cocoa.

*Katie Chan is Sustainability Editor at Curation where this article was originally published*



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