## How do you make vegetables taste like meat? The science behind the rise of plantbased burgers

"Beyond Meat," an American company that produces plant-based meat substitutes, made a huge splash in financial markets when its stock tripled in three days after its initial offering. That was followed by soaring sales in supermarkets and fast-food restaurants ....

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Beyond Meat's major competitor is the "Impossible Burger," produced by "Impossible Foods," a company founded in 2011 by Patrick Brown who is no scientific slouch. He has both a medical degree and a PhD in biochemistry and is the recipient of a number of prestigious awards.

In 2010 Brown left Stanford University where he had been a professor having become convinced that raising animals to produce food was an environmental disaster .... He decided that the best way to reduce the environmental cost of raising animals was to offer a plant-based product that could compete with meat in look, scent and taste.

The first question that had to be answered was what makes cooked meat look, smell and taste the way that it does .... Using sophisticated instrumental techniques Brown and his team analyzed the volatile compounds released when meat was cooked and their attention was drawn to "haem," a breakdown product of the oxygen-carrying molecule, haemoglobin that was present in abundance.

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