

Will we be eating meat-free burgers?

1 Warmer

Which three of these six activities would you stop doing in order to protect the environment?

- a. flying
- b. eating meat
- c. driving a car
- d. using plastic
- e. using wood products such as paper
- f. having a hot bath

2 Key words and expressions

Find the words or phrases in the article that match the definitions below. The paragraph numbers are given to help you.

1. businesses that are just beginning to operate (paragraph 1)
2. a period away from work when people such as college or university teachers can study, rest or travel (paragraph 4) _____
3. trying to influence politicians or people in authority on a particular subject (paragraph 7) _____
4. to make something happen (paragraph 7)
5. to be able to understand something or solve a problem (two words, paragraph 8) _____
6. very strong feeling or enthusiasm (paragraph 8) _____
7. to start a new company, product or service (paragraph 9) _____
8. to give support to a person, organisation or plan (paragraph 10) _____
9. refuse an offer or request (two words, paragraph 13) _____
10. the process of supplying goods from one central place to different shops or other outlets (paragraph 14) _____
11. the activity of trying to persuade people or organisations to give money for a specific purpose (paragraph 14) _____
12. to start selling a company's shares on the stock market (paragraph 15) _____
13. something easy to do or achieve (two words, paragraph 20) _____
14. to get rid of something that is not wanted or needed (paragraph 21) _____

The Impossible mission - to save the planet with a burger

Pat Brown has developed plant-based meat that looks, tastes, and even bleeds like the real thing

BY EMIKO TERAZONO AND TIM BRADSHAW

- 1 As a 64-year-old former professor of biochemistry, Pat Brown stands out among the many twenty-something founders of billion-dollar start-ups in Silicon Valley.
- 2 But what he lacks in youth, he makes up for in ambition. Instead of merely changing the world, Mr Brown intends to save it, and a new deal announced this week between his plant-based meat start-up Impossible Foods and Burger King is a big step towards achieving his goal of reducing the carbon emissions generated by the meat industry.
- 3 Mr Brown is renowned in the scientific community for his research in genetics and microbiology – including defining the mechanism by which the HIV virus infects cells.
- 4 After taking a sabbatical from his role as a professor at Stanford University in 2010, he wanted to find a global issue where he could make a real difference.
- 5 He concluded that finding the causes of cancer or Alzheimer's were secondary to the environmental damage caused by eating meat and dairy. "Nothing comes remotely close to the catastrophic environmental impact of [the livestock] industry," he says.
- 6 From greenhouse gases produced by livestock to the negative effects on land and water, he is convinced that humans are racing toward ecological disaster unless meat and dairy consumption is reduced or even eliminated.
- 7 He quickly realised that instead of preaching for a shift in eating habits or lobbying to change regulations, offering consumers tasty alternative proteins was the most effective way to trigger change.
- 8 A marathon-running vegan, he has not eaten meat for almost five decades or dairy for over 15 years. "If you can figure out what makes meat delicious . . . you can save the planet from an environmental catastrophe," says Mr Brown with messianic fervour.
- 9 With the backing of Silicon Valley investor Khosla Ventures, he launched Impossible in 2011, putting together a team that included molecular biochemists, chemists, and data scientists to make plant-based meat from a molecular level.
- 10 Samir Kaul, a founding partner at Khosla with a background in genomics who looked up to Mr Brown in his days as a scientist, says it was an easy decision to back him. "He has a history of taking on big challenges and, frankly, winning."
- 11 Impossible discovered that "heme", an iron-containing protein molecule present in plants and animals, was the magic ingredient giving meat its aroma, taste and texture. Heme, produced through genetic engineering and yeast fermentation, is also behind the "juices" that make the Impossible burger bleed.
- 12 In 2016 it introduced a burger made with wheat and potato proteins, coconut oil and heme, which looked, tasted, smelt, and sizzled like a real burger.
- 13 Even before Impossible launched a product, Mr Brown turned down an offer worth hundreds of millions of dollars for the company from Google in 2015. "For Pat Brown personally, his reason to do this is not to get rich. For Pat it's to make the world a better place," says Mr Kaul.
- 14 Fast forward to 2019, the company has introduced a new and improved burger after swapping wheat for soyabeans and using less salt. After signing its distribution deal with Burger King it is fundraising to increase the capacity of its production facility in Oakland, California.
- 15 Along with rival Beyond Meat, which is preparing to float in the US, Impossible has sought to lure meat-eating consumers who want to reduce their meat intake or are looking for tasty options, casting the net wider than vegans.

Continued on next page

- 16 The Burger King trial is starting in St Louis, Missouri — the heart of barbecue and beef country — but Impossible hopes it could be available across the US by the end of the year. It has been gradually expanding the burger’s availability from high-end restaurants, such as Momofuku Nishi in New York and Jardiniere in San Francisco, to bigger US chains including Cheesecake Factory and White Castle.
- 17 Mr Brown seems to have slipped into his role as an entrepreneur with ease. He told investors that if they backed him, he was going to make them “insanely rich”.
- 18 His pronouncements that he was not bothered about exits have been perceived as arrogance by some venture capitalists. However he has still raised more than \$475m since 2011 and attracted plenty of other backers, including Viking Global, Bill Gates, and Li Ka-shing’s Horizons Ventures. Investors hope the latest fundraising will value the company at more than \$1bn.
- 19 Bruce Friedrich, who launched the Good Food Institute, a US not-for-profit that promotes alternative proteins and advises start-ups, calls Mr Brown “a prophet” and praises his “infectious optimism”.
- 20 It has not all been plain sailing. Impossible reduced the salt content of its new burger after health campaigners criticised it for having too much. It had to wait several years before the US Food and Drug Administration last year acknowledged that “heme” was “generally recognised as safe”. It also defended the testing of its products on rats after criticism from animal rights group Peta.
- 21 If the Impossible burger is successful, Mr Brown hopes to eliminate animal meat in the food chain by 2035, helping the earth to restore its vegetation cover.
- 22 “Half of earth’s land has been significantly and destructively disrupted by animal agriculture,” he says. “So our replacement of that industry with a tiny fraction of the land and environmental impact and resulting recovery of ecosystems will be visible from outer space.”

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Emiko Terazono and Tim Bradshaw, 5 April 2019
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3 Understanding the article

Decide whether these statements are true or false according to the article. Correct the false statements.

1. Pat Brown’s ambition is to reduce the carbon emissions generated by the meat industry.
2. Brown believes the most effective way to make change happen is to offer consumers tasty alternative proteins.
3. Brown has not eaten meat for 15 years.
4. The magic ingredient that gives meat its aroma, taste and texture is a protein molecule called “heme”.
5. Impossible introduced its first burger in 2011.
6. Google offered to buy Impossible for hundreds of millions of dollars.
7. Impossible’s new burger uses wheat instead of soyabeans.

- The company has raised more than \$1 billion since 2011.
- Impossible was criticised for not putting enough salt in its new burger.
- Pat Brown hopes to remove animal meat from the food chain by 2035.

4 Business language – phrases

Complete the phrases from the text using these words.

together end worth profit real on effective production

- make a _____ difference
- the most _____ way
- put _____ a team
- take _____ a challenge
- an offer _____ hundreds of millions of dollars
- the capacity of its _____ facility
- by the _____ of the year
- a not-for- _____ organisation

5 Business language – two-word phrases

Match the words in the left-hand column with those in the right-hand column to make expressions from the text.

- | | |
|-------------|----------------|
| 1. twenty | a. consumption |
| 2. carbon | b. issue |
| 3. meat | c. emissions |
| 4. founding | d. something |
| 5. venture | e. partner |
| 6. global | f. capitalist |

6 Discussion questions

- Should the consumption of meat be reduced or even banned in order to save the planet? Give reasons why or why not.
- The article suggests that the alternative to meat is a plant-based product that tastes like meat. Would you buy such a product? Give reasons why or why not.
- Apart from reducing their own meat consumption, in what other ways could people help to reduce environmental damage?

7 Wider business theme – Start-ups

1. **You are part of a team that is launching a start-up company to develop a new food product that will be environmentally-friendly. Think about the following:**

- what the food product is
- where and how you will market the product
- how the product will be distributed
- how the start-up will be financed

To get ideas for this task, use a search engine to get information about successful start-up companies and find out what factors have helped them become successful.

2. **Present your ideas to the group.**