

Replacing beef with beans could save the planet, because people farts are better than cow farts

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There's an old childhood ditty about eating beans that starts off "beans, beans, they're good for your heart," and ends with a snicker-inducing line about their other well-known effects. It turns out, though, that beans are good for more than your heart. Eating them could also be good for the climate.

Shunning beef for beans could mitigate the effects of climate change by slashing greenhouse gas emissions in a very big way, according to new [research](#) published in the journal *Climatic Change*. The study predicts such a swap could help the United States meet upwards of 50 percent of its emissions targets by 2020.

It's tempting have a little fun with this. Maybe we're just trading one gas for another. (The study recalls the classic [campfire scene](#) from *Blazing Saddles*—even the scientists admit it's funny.)

"This is probably the first time that beans have been identified as a gas-reducing measure," said Helen Harwatt, a former research fellow at Loma Linda University, and lead author of the study. Still, it's serious science about a sober issue, as there's little that's comical about climate change.

"What this article attempts to show in a very clear way is that a single change in a food habit could have a dramatic effect on greenhouse gas production," said Joan Sabaté, executive director of Loma Linda University's center for nutrition, healthy lifestyle and disease prevention, and coauthor of the study. "The nation could achieve more than half of its greenhouse gas reduction goals without imposing any new standards on automobiles or manufacturing."

The paper emphasizes that beef cattle are the most carbon-intensive food to produce. That's because cows burp and fart methane, a powerful greenhouse gas. Pound for pound, legumes deliver more calories and more protein than beef with a far, far smaller carbon footprint.

"While the environmental impact of food has certainly become more and more topical, it's a concern to see food largely left out of climate change policy discussions," said Harwatt, now a freelance food sustainability specialist. "The food system is the largest single contributor to global greenhouse gases and there are many efficiency gains to be made, which translate into greenhouse gas reductions."

Scientists gradually are beginning to focus on the impact of food production on climate change. Recently, a [study](#) recommended that substituting half of the meat consumed worldwide with crickets and mealworms could cut farmland use by one-third, thereby reducing greenhouse gas emissions.



But edible insects almost certainly would be a hard sell in the United States. A bowl of beans, on the other hand, would be a more palatable alternative—but only if Americans were willing to forego their juicy steaks. Harwatt thinks it's possible.

“Beef consumption is already declining in the United States, so these types of food shifts are just going with this trend and speeding it up due to the added urgency of climate change mitigation,” she said.

The fate of the cattle industry is another concern should beef consumption drop, but it's a solvable problem, the researchers say.

“The issue of jobs lost is important, but by no means prohibitive,” said Gidon Eshel, professor of environmental physics at Bard College and a coauthor of the study. He explained that many cattle operators also work other jobs and thus have additional sources of income.

To be sure, “any significant dietary shifts from animal to high-protein plant based foods will obviously take a considerable amount of time, likely on the scale of years to a few decades,” said William Ripple, a coauthor of the study and distinguished professor of ecology at Oregon State University. “We used the year 2020 for purely demonstrative purposes, and because there are published greenhouse gas emission targets for that year.”

In conducting their analysis, the researchers considered the total of greenhouse gas reductions needed to meet the nation's 2020 target—obtained from the president's climate change plan—then calculated the extent to which food contributes to emissions.



Betting the farm on beans?

The authors also used previously published studies to calculate how much land would be spared switching beef to beans, concluding the substitution would free up 42 percent of the nation's cropland currently under cultivation. This amounts to an area roughly one and a half times the size of California, according to the study.

The researchers also note that eating beans not only benefits the environment, but is less expensive than beef and good for your health. Perhaps that little childhood song was onto something.

“Eating more beans is a great way to increase phytonutrients, fiber, antioxidants and lifespan,” Harwatt said. “Replacing beef with beans has a doubly beneficial health impact, as not only do we get the benefits of eating beans, we remove the dis-benefits of eating beef, including an increased risk of Type 2 diabetes, stroke and colorectal cancer.”

Equally important, those unpleasant side effects—the stuff of endless bean humor—are temporary and often exaggerated, she said.

“Consumers shouldn't be put off by increased flatulence as it's been shown to dissipate by the second or third week of increased bean consumption,” she said. “So we might need to sacrifice some short-term inconvenience for longer-term benefits to our personal, public and planetary health.”

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