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Will Switching From Beef to Soy Save the Planet?

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STORY AT-A-GLANCE

- An analysis meant to estimate the potential change in carbon emissions and water usage from a single dietary substitution found replacing one beef meal with turkey could potentially lower carbon emissions by 9.6% and water usage by 5.9%
- A second announcement in the fake food industry revealed researchers from Israel can produce animal-free cow's milk from a "precision fermentation" process using microflora. The precision piece is driven by AI-generated DNA insertion into the microorganisms
- The FDA gave genetically engineered milk proteins used in Perfect Day ice cream generally recognized as safe (GRAS) status. Yet, data show that regenerative farming practices have a lower carbon footprint than CAFO farming and fake meat production
- Supporters of fake food promote the idea it creates a sustainable food source. But the process is more about creating a financial windfall for those who own it or invest heavily, enabling some to control populations through central production and distribution of food

A study published in the American Journal of Clinical Nutrition[1] sought to estimate the potential impact on carbon and water resources when a single dietary substitution was made in an individual's diet plan. The researchers analyzed many food items and found the highest impact foods may reduce carbon footprint and water usage. However, the suggested substitutions may have additional health challenges.

Many of the food substitutions the researchers want you to try also have higher levels of omega-6 fatty acids in the form of linoleic acid (LA). Omega-6 fats are essential for

good health. However, a Western diet has an abundance of omega-6 fats and not enough omega-3 fats.

These two fats must be balanced in a ratio as close to 1-to-1 as possible.[2] I consider LA to be one of the most significant contributors to metabolic dysfunction. In my opinion, this poison is the primary contributor to the rising rates of chronic disease.

As I plan to cover in my next book, LA leads to severe mitochondrial dysfunction, decreased NAD+ levels, obesity, insulin resistance and a radical decrease in the ability to generate energy. As you consider the substitutions the researchers suggest, consider also the nutrient content of the food products and the long-term impact this has on your health. Instead, there are better options.

Substituting a Single Food Item May Reduce Carbon Footprint

In January 2022, researchers from Tulane University[3] published an analysis of the 24-hour dietary recall information gathered from the National Health and Nutrition Examination Survey (NHANES) taken 2005 to 2010. The analysis was meant to estimate the potential change in carbon footprint or water usage if a single dietary substitution was made in the group of 16,800 adults surveyed.[4]

The researchers used the Healthy Eating Index (HEI)[5] to assess the quality of each diet and then placed foods with the highest impact on greenhouse gas emissions at the top of the list. The participants' carbon footprint was calculated based on their current diet and then again with a hypothetical food substitution.

The data showed that the food with the highest impact on greenhouse-gas emissions is conventionally produced beef products. Cattle are conventionally raised in concentrated animal feeding operations (CAFO), which are notorious for producing large amounts of carbon and methane.[6] Additional problems with CAFOs were noted in a study published by Johns Hopkins in 2019:[7]

- CAFOs are subsidized by taxpayer money

- Food produced uses 12 times the energy needed to produce food outside a CAFO
- There are nearly 20,000 CAFOs in the U.S. where over 9 billion animals are raised and slaughtered annually
- CAFOs are found more frequently in low-income communities

CAFO-raised animals are also fed foods they wouldn't naturally consume, which affects the meat.[8] The researchers suggested that swapping out one high-impact food item for another with a similar HEI score could have a measurable impact on greenhouse gas emissions. The intention was to provide a substitution that didn't change the quality of the diet the participant had chosen.

Nearly 20% of those surveyed reported eating at least one serving of beef each day. The researchers estimated that if this 20% collectively swapped out one serving of beef for a serving of ground turkey, the greenhouse gas emission impact could fall by an average of 48% and water use could be reduced by 30%.[9]

The researchers went on to analyze the overall effect this would have if only 20% who ate beef each day substituted one meal with beef each day. The data showed it could reduce the carbon footprint by 9.6% and water usage by 5.9%.

Diego Rose, professor of nutrition and food security at Tulane University's School of Public Health and Tropical Medicine, commented that their data showed even simple steps can help make a difference to climate change.[10] Another of their recommendations is to substitute dairy milk for soy-based milk products.[11]

Fake Milk Is Now Possible

A second fake food news announcement was also made in February 2022. After 15 years of research at Tel Aviv University, Imagindairy announced a novel way of producing milk-based proteins without animals. It's being touted as "actual milk complete with dairy proteins. But not a cow in sight."[12]

Fifteen years of work produced the process, which Imagindairy company used to close a $13 million seed investment to commercialize the production of animal-free milk proteins. The CEO of the company believes the market is looking for more fake food based on animal-free proteins.[13]

The production uses microorganisms in a process they call “precision fermentation.” The scientists claim the process produces whey and casein, which are two of the key components in cow's milk responsible for specific properties, such as taste and texture. Scientists use microflora to produce casein and whey after providing microorganisms with the DNA sequence to make these proteins.

The company boasts this specific process does not require a cow. Instead, the DNA blueprint given to the microorganisms is produced by software. The microflora are added to a tank with water, nutrients and sugar. Since the organisms have the DNA blueprint, during fermentation they produce the two proteins.

The scientists then separate the proteins from the microflora, after which it is filtered, purified and dried. The resulting powder can be used to make milk, cream cheese, yogurt and cheese. The company is promoting the difference in greenhouse gas emissions between producing fake milk and CAFO dairy cattle production. Eyal Afergan, cofounder and CEO of Imagindairy, commented to Food Ingredients:[14]

> *“Consumers want the sensation of real milk, but at the same time, they don’t want to harm the animals. Our vision is to enable every dairy lover worldwide to enjoy tasty and nutritious dairy products while preserving the environment and protecting animals. Together, we can create a world where a dairy cow is just a cow nurturing her calf.”*

If you'll note, the most important factor in producing fake milk appears to be the sensation of real milk without saying that a product produced by injecting DNA into microorganisms fermenting water, sugar and unknown nutrients can provide the nutrition your body needs for optimal health. They would like to make the cow obsolete.

Lab-Grown Ice Cream Made From GE Fungi

In a similar move, the Perfect Day company received regulatory approval to develop ice cream in 2019[15] using animal-free protein made from genetically engineered fungi.[16] The process of making lab-grown milk proteins is far from natural, but Perfect Day has tried to get around this by describing the process as "collaborating with nature,"[17] which is another way of describing the DNA manipulation within microorganisms.

The Perfect Day company is pushing a future of fake food by "urgently bringing new products to the market."[18] They created the Urgent Company as the "very embodiment of our generation's sense of urgency … to use science and technology to make better, more sustainable things for us all."[19]

The FDA has given the GE proteins generally recognized as safe (GRAS) status[20] even though it's unknown what the long-term consequences of consuming this fake food will be. Perfect Day also claims that the proteins used to make their products are "some of the purest protein in the food industry."

The fake food industry pushes lab-grown proteins by pointing out the obvious, that conventional and factory-farmed dairy production and beef production is not good for the animals or for the planet. However, the suggestion that the only alternative is to create synthetic food in the laboratory is far from the truth.

Regenerative Farming Practices Lead to Clean Environment

The study from Tulane University did not consider the overall damage to the environment and human health as they sought to find food substitutions. In other words, they substituted CAFO-grown beef for CAFO-grown chicken or turkey and cow's milk for soymilk.

Impossible Foods, makers of meat, fish and dairy products from plants,[21] sought to prove they had a better carbon footprint than live animal farms. They hired Quantis to do an analysis,[22] which is a group of scientists and strategists who help their clients take

action based on scientific evidence. According to the executive summary, their product reduces environmental impact between 87% and 96% in the categories studied.

These included global warming potential, land occupation and water consumption, two of the factors considered in the Tulane University study.[23] Impossible Foods compared the fake meat product to meat produced at CAFOs, whereas a healthier and more sustainable choice is beef produced by grass-fed cows. However, there is a cleaner and healthier choice for your health and the environment.

White Oak Pastures in Bluffton, Georgia,[24] produces high-quality, grass-fed products using regenerative grazing practices. They commissioned the same analysis by Quantis and published their 33-page study[25] demonstrating the comparison of White Oak Pastures emissions against conventional CAFO beef production.

While the manufacture of fake meat reduced carbon footprint by 96% in some categories, White Oaks had a net total emission in the negative numbers as compared to CAFO-produced meat. Furthermore, grass-fed beef from White Oak pastures had a carbon footprint that was 111% lower than a typical U.S. CAFO and its regenerative system effectively captured soil carbon.

The fake food industry also relies heavily on monoculture production of soy, which damages the environment.[26] It's worth noting that much of this is GMO soy that contains Roundup ingredient glyphosate.[27]

In addition to soybeans, research has also warned that soybean oil, which is one of the most widely consumed cooking oil in America,[28] can cause neurological and metabolic changes that are associated with autism, Alzheimer's disease, Type 2 diabetes and obesity.[29]

Bill Gates Wants Rich Countries to Eat Synthetic Food

Supporters of lab-grown synthetic food promote the idea that it's about creating a sustainable food supply or making a “green” decision that helps the planet. However, in a piece published in early September 2021,[30] the food critic for Financial Times made a

strong case about how lab-grown meat is more about intellectual property (IP) and creating a financial windfall for those who own it or have invested in it.

Using a historical perspective, he looked at the patents that protect breakfast cereal, carbonated beverages, vaccines, drugs, genetically modified plants and pesticides. In each case, the IP owned by the agrichemical businesses, Kellogg, Coca-Cola, McDonald's and Big Pharma were the lifeblood of their financial success. He wrote:[31]

> *"Currently, there's not a lot of IP in the meat industry ... Saving animal lives, preventing the clear-cutting of rainforest, even the reduction of methane farts don't excite investors — those changes can't translate to profit.*
>
> *The holy grail is replacing the meat we consume with a proprietary product, owning the IP on meat. Coca-Cola and McDonald's managed to grow patented food products into two of the top food companies on the globe by market cap, but a patent on animal-free 'meat' could entirely dwarf their achievements."*

It should therefore come as no surprise that Bill Gates promotes the idea of producing and distributing 100% synthetic beef to fight climate change.[32] Despite data having proven that regenerative farming strategies are healthier for the environment than synthetic food, and despite his ownership of thousands of acres of farmland,[33] the core tenant in his book to eliminate greenhouse gas emissions is synthetic food.[34]

It is worth noting that this book was written by a man who built a 65,993 square-foot (6,131 square-meter) home with a 23-car garage, 20-person cinema and 24 bathrooms.[35] He also owns five other homes, a horse farm, four private jets and several helicopters.

According to a study reported in Business Today, Gates' annual carbon footprint is 7,493 metric tons of carbon, much of which is produced by his aircraft. In this case, you also want to follow the money. In an article published in Forbes, March 22, 2021, one financial reporter wrote:[36]

> *"Now, I don't necessarily agree with Gates. And I hate the idea of governments deciding what their citizens should eat (which seems to be what Gates is suggesting). But my job is to help you make money. And there's no question that there's billions to be made in the technology behind plant-based meat."*

During Gates' interview with MIT Technology Review, he said:[37]

> *"So no, I don't think the poorest 80 countries will be eating synthetic meat. I do think all rich countries should move to 100% synthetic beef. You can get used to the taste difference, and the claim is they're going to make it taste even better over time. Eventually, that green premium is modest enough that you can sort of change the [behavior of] people or use regulation to totally shift the demand."*

Consider the last sentence in that paragraph as Gates and other technocrats are aiming at controlling the population through central production and distribution of food. It is important to understand that promoting lab-grown protein is not about sustainability but, rather, about wealth and power.

Using intellectual property, tech giants hope to replace living animals with patented plant- and animal-derived alternatives, which will effectively control the food supply. And Gates' 242,000 acres of farmland spread across Illinois, Louisiana, California, Iowa and nearly one dozen other states[38] appear to be earmarked for genetically engineered corn and soy crops.[39] In other words, he's farming the basic crops needed for (plant-based) fake meat and processed foods.

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