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Fake Meat Is Junk Food

Analysis by Dr. Joseph Mercola ✔ Fact Checked | November 02, 2022

STORY AT-A-GLANCE

- Ultraprocessed foods typically have five or more ingredients, many of which are not commonly used in home kitchens. This aptly describes the Impossible Burger and Beyond Burger, including fake blood processed from genetically engineered yeast to mimic the taste and texture of real beef
- Although the soy-like hemoglobin used in the Impossible Burger is classified as generally recognized as safe, no tests have been done by independent labs on the product's safety. However, tests on lab rats altered the animals' blood chemistry; the company did not follow up on the results
- The parent companies for Impossible Burger and Beyond Burger commissioned studies to assess the environmental impact of production against typical CAFO beef production. Not surprisingly, they found their product had a lower impact. But it's not nearly as low as the beef production at White Oaks Pastures, which uses regenerative farming practices to produce natural beef products
- If a plant-based, GE meat alternative is not enough of a science fiction adventure, consider the "meat" scientists are growing from stem cell cultures in the lab. Some see these alternatives as the lesser of two evils, but when holistic herd management improves the environment, your best choice is to seek food from natural sources

The junk food industry has a new product they are offering in exchange for your health and finances. Using strategies to position it as a healthy alternative for natural meat, the industry's fake meat is just another name for ultraprocessed food, full of genetically

engineered (GE) and pesticide-laden ingredients designed to look as much like meat as possible.

In an effort to get you hooked on it, it's marketed as healthier and better for the environment — which may lead you to believe you're eating good food while protecting your local air and water supplies. The manufacturers are so intent on mimicking foods found in nature that they've even genetically engineered "blood" for their fake meat products.[1]

Food critics[2] are divided on the taste, with some finding the texture pleasing, but not tasting like a burger. Others say that only when the burger is piled high with caramelized onions, vegan mayo and mashed avocado, does the flavor likely approximate meat.

When it comes to organic offerings, food manufacturers would like you to believe they can improve on nature but, historically, this has been nearly impossible to achieve. Ultraprocessed foods have contributed to the obesity epidemic,[3] rising rates of cardiovascular disease and an increased risk of all-cause mortality.[4]

If you think ultraprocessed foods are only found in the junk food aisle, though, it may surprise you to learn that, according to Current Developments in Nutrition, many foods you eat most likely include fake meat ingredients:[5]

> *"Besides salt, sugar, oils, and fats, ingredients of ultra-processed foods include food substances not commonly used in culinary preparations, such as hydrolyzed protein, modified starches, and hydrogenated or interesterified oils.*
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> *Additives whose purpose is to imitate sensorial qualities of unprocessed or minimally processed foods and their culinary preparations or to disguise undesirable qualities of the final product, such as colorants, flavorings, nonsugar sweeteners, emulsifiers, humectants, sequestrants, and firming, bulking, de-foaming, anticaking, and glazing agents."*

Health Is Not Driving a Meat Makeover

The Heart and Stroke Foundation of Canada warns you should not be swayed by deceptive marketing tactics using words such as "healthy" and "natural"[6] when you make food choices. Unfortunately, it appears that some consumers believe the advertising promises.

While called a plant-based meat alternative, Beyond Burgers and Impossible Burgers are an ultraprocessed conglomeration of chemicals, concocted by pulling protein from soy and a few other processed concentrates. Amy Keating, registered dietitian and Consumer Reports nutritionist, commented:[7]

> *"… while its starting materials may be plants, the main ingredients are all highly processed concentrates, oils, and flavors. If you want the health benefits of plants, eat them as whole foods with their nutrients and fiber naturally present."*

Adding to the discussion, both Impossible Burger and Beyond Burger have nearly the same amount of total fat and calories as real beef burgers. In addition, both also have much more processed sodium added. As a reporter at NBC News so succinctly pointed out:[8]

> *"If eating more realistic fake meat was about health, the offerings would be far lower in salt content, contain fewer calories and have a bit less dietary fat. None of them do, because the point was never to live up to the marketing of healthier eating. It was to simply act as a smooth replacement for the meat we worried about eating in our day-to-day lives."*

The fake meat industry is riding the coattails of the real risk that **concentrated animal feeding operations** (CAFOs) pose to the environment and to human health. However, fake meat manufacturers have turned to the laboratory to boost profits and drive sales rather than support sustainable and environmentally-friendly real food production.

Chemical-Packed Fake Meat Contains GE Blood

After they mimicked the look and texture of meat, manufacturers gave consumers the taste and color of blood using a compound produced by genetically engineered yeast

cells.[9] The compound is called soy leghemoglobin, coming from the roots of the soybean plant. On a chemical level, it's similar to the heme iron molecule found in mammal blood and it adds some of the texture and bloody look of an all-beef patty.

But manufacturing it to scale is impossible with just soybeans — it takes one full acre of soybeans to produce 1 kilo of leghemoglobin.[10] Plus, it requires genetic work in the lab to insert the soy leghemoglobin into engineered yeast cells. During the fermentation process, the GE yeast produces large quantities, in addition to dozens of other proteins.

Impossible Burger's scientists fed the leghemoglobin to rats for 28 days to determine the risk of allergic reaction or toxicity. Dana Perls, from Friends of the Earth, pointed out that the rats exhibited alterations in blood chemistry, which the company did not follow up on.[11]

Unfortunately, the U.S. Food and Drug Administration only requires research by the manufacturer to determine food safety and has not conducted any independent tests.[12]

Michael Hansen, Ph.D., Consumer Reports senior scientist, notes there is no long-term data demonstrating the effect of soy-like hemoglobin in humans.[13] The process of manufacturing the compound yields at least another 45 by-product proteins, also consumed with the leghemoglobin.[14]

The FDA has classified the Impossible Burger as generally recognized as safe using data provided by the University of Nebraska and the University of Wisconsin.[15] Other experts are not convinced.

According to the Center for Food Safety, 94% of the soybean crops grown in the U.S. are genetically altered.[16] And, Hansen[17] warns there are not enough data to determine human safety when consuming chemical compounds, as these compounds are produced from genetically altered yeast harvested from genetically altered soybeans.

Marketing Tactics Used to Convince Consumers

As I've written before, junk food is based on junk science, or information aimed at driving profits at the expense of your health. The fake meat industry has taken a page from other corporate interests such as the sugar and tobacco industries. You may have noticed a cycle some producers have used, beginning with hype and marketing and often ending up in a revelation, sometimes years later, that the products are not as healthy as you were told.

The cycle is lucrative and makes more money for companies than subsequent lawsuits drain. Vaping products, opioids, sugar-based products, traditional cigars and cigarettes and junk foods are just a few examples of items that haven't lived up to the hype and marketing strategies. Meanwhile, millions — if not billions — flow into manufacturers' pockets.

One of the claims from the fake meat industry, as an example, is that their products are sustainable and leave a smaller carbon footprint than that of traditional beef productions.

When compared to CAFO facilities, where animals are often treated inhumanely, the waste damages to air and water supplies and the administration of antibiotics that contribute to widespread antibiotic resistance, they may have something to complain about. However, moving from one broken system to another is never the answer.

Regenerative Farms Produce Clean, Healthy Environments

To help them "prove" they have a better carbon footprint than live animal farms, Impossible Burger enlisted the help of Quantis, a group of scientists and strategists who help their clients take actions based on scientific evidence.[18] Beyond Meat commissioned the University of Michigan[19] to conduct an assessment and compare the environmental impact of their production to that of typical beef production in the U.S.

The results were similar for both companies. According to the executive summary[20] published on the Impossible Foods website, their product reduced environmental impact

between 87% and 96% in the categories studied, including global warming potential, land occupation and water consumption.

In response, White Oak Pastures in Bluffton, Georgia, commissioned the same analysis by Quantis[21] and published a 33-page study showing comparisons of White Oaks Pastures emissions against conventional beef production.

While the manufactured fake meat reduced its carbon footprint up to 96% in some categories, White Oaks had a net total emission in the negative numbers as compared to CAFO produced meat.[22] Yes, negative. Also of note, emissions for producing beef at White Oaks Pastures was much lower than the average production of soybeans, the base for plant-based burgers and leghemoglobin.[23]

Quantis also found that White Oaks Pastures beef falls within and even below the range of production of other types of protein sources, including beef, pork, chicken and soybeans. Additionally, emissions by White Oaks Pastures included a large negative soil carbon sequestration, which I've explained in many articles is essential to protecting against air pollution and climate change.[24]

Speaking to Consumer Reports, Friends of the Earth's Perls added that the hype and advertising around alternatives to natural meat will distract from finding better solutions to environmental problems, and noted the true cost of producing fake meat cannot be known until it's being produced on a large scale.[25]

These costs include damage to your health as well as to the environment. "Rather than creating new products that require more energy, more money, and more processed chemicals, why not invest in a truly sustainable system ..." Perls said.[26]

'Plant-Based' Not Enough — Others 'Growing' Meat in Labs

If eating plant-based, GE grown meat alternatives laced with heme molecules to mimic the presence of blood is not enough of a science fiction adventure, consider the fact that scientists in Tel Aviv are "growing" meat in the lab from stem cell cultures.[27]

A CBS News crew traveled to Tel Aviv to report on the story and had to sign a waiver to be able to taste the "meat." CEO of Aleph Farms, Didier Toubia, told the crew he believes they can produce meat efficiently, more sustainably and in a healthier fashion than what has been traditionally offered.[28]

When the CBS reporter commented on the "delicate portion" of meat served to him, appearing in the video to be no more than a thinly-sliced, 1-inch square, the scientist cooking the "meat" said:[29] "Well, just to get this portion is a lot of work."

To get their product, the researchers have to extract stem cells from chicken and change the mix of protein. Then, they have to direct the cell growth, and it's all a slow, involved process. Several other companies are jumping on the bandwagon, though, including Memphis Meats and Mosa Meats for beef and chicken, and Finless Foods and Wild-Type for fish.[30]

Memphis Meats' leadership believes their controlled production environment may reduce the risk of bacterial contamination. But Hansen, a senior scientist at Consumer Reports,[31] points out that "bacterial contamination can occur" in laboratory environments and that "antibiotics are often needed to curb bacterial growth in cultured cell products form drug companies."

At this point, lab-produced meat is not available for sale. Kate Krueger, Ph.D., a New York-based research director focused on cellular agriculture, says it may be "four to six years before 'ground' meats are available and a decade or more before we see cuts like steaks," in the grocery store.[32]

Choose Grass Fed, Not Genetically Altered Food

Although many see lab-created meat substitutes as the lesser of two evils when compared to the CAFO meat that's currently dominating the market, altering the natural order of the lifecycle is not the answer. Analyses on **regenerative agriculture** have demonstrated holistic herd management as having a positive impact on the environment and producing healthy meat and dairy products.

Ultimately, fake food contributes to the rising number of people who suffer from health conditions related to the foods they eat, such as diabetes, **heart disease** and obesity. For health reasons, ecological reasons and your future, I recommend skipping meat alternatives and opting for real beef raised using regenerative farming practices.

When you do shop for meat, look for a local organic farmer or Demeter (biodynamic) and American Grassfed Association (AGA) certifications on the meat. These accreditations designate foods produced under high-quality, sustainable and environmentally sound practices.

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