

Will You Eat Cultured Meat Grown From Human Cells?

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STORY AT-A-GLANCE

- › The fake meat industry poses tremendous risks to global health as ultraprocessed foods have been robustly linked to obesity, ill health and early death. It also threatens global food security through the patenting of food
- › Imitation meats are ultraprocessed foods as they're manufactured from start to finish and typically involve the use of man-made ingredients
- › Once living animals are eliminated and replaced with patented plant-derived and cell-based lab-grown alternatives, private companies will effectively control the food supply in its entirety, and they will be the ones profiting from it rather than farmers
- › Meat grown from human cells harvested from the inside of your cheek, which are then grown in a broth made from blood extracted from unborn calf fetuses or expired human blood, may eventually become available
- › Start-ups are working on or have already launched meatless soy-based burgers and lab-grown steaks, shrimp, pork and chicken

This article was previously published December 23, 2020, and has been updated with new information.

According to the World Economic Forum – the private, technocratic group leading the global economic “reset” agenda – lab-grown, cultured meat is a more sustainable alternative to conventional livestock. As noted on its website:¹

"As the world looks to reset its economy, along with food systems, in a cleaner way post-pandemic, one more sustainable solution coming to fruition is cultured meat ... Cultured meat takes much less time to grow, uses fewer of the planet's resources, and no animals are slaughtered."

Fake Meat Is a Catastrophe for Your Metabolic Health

Excess omega-6 fat in the form of linoleic acid (LA) is one of the most significant contributors to metabolic dysfunction. It is literally a metabolic poison that, in my opinion, is the primary contributor to the epidemic in chronic disease we have seen in the past 150 years. I am so passionate about this topic, I'm currently writing a new book with Chris Knobbe about this that will be out next year.

Our LA consumption 150 years ago was between 2 and 3 grams per day. Today it is 10 to 20 times higher. This leads to severe mitochondrial dysfunction, insulin resistance, decreased NAD+ levels, obesity and a radical decrease in your ability to generate cellular energy.

It is obvious that fake meat requires basic substrates or building blocks to create the actual food. The genetic engineering is primarily done to reproduce the flavor and texture composition of real meat. What this process fails to do on steroids is reproduce the healthy fatty acid composition of real meat. Why?

Because they are using canola and safflower as the primary source of fats for their products. The safflower oil used in Beyond Meats is nearly 80% LA. The canola oil used in the Impossible Burger is only 21% LA, so it should be better but both are extraordinarily loaded with unhealthy levels of LA.²

You would be exponentially better served by selecting real meat that is organic and humanely raised. This is because the LA content of beef and bison is extraordinarily low and, in my view, one of the primary reasons they are so healthy for you.

This is largely because excess LA is extraordinarily susceptible to oxidation and causes very dangerous oxidation byproducts called OXLAMs (oxidative linoleic acid

metabolites) that devastate your DNA, proteins, mitochondria and cellular membranes.

A half-pound serving of organic grass fed beef will provide less than HALF a gram of LA (500 mg). Compare this to a serving of an Impossible Burger or Beyond Meat burger, which have 10 to 20 times the amount of LA.³

So, not only is fake meat failing all the measures discussed in the rest of this article, but it is also adding to the catastrophic metabolic deterioration of your health caused by other processed and ultraprocessed foods. I recently interviewed Tucker Goodrich about the dangers of LA, so for more information, refer back to that interview.

Fake Meat Industry Offers No Real Solutions

Over the past several years, a growing number of start-up companies have joined the brave new world movement to replace real meat with ultraprocessed imitation meats "grown" through a variety of means.

Among them are the Israeli company Aleph Farms, which in mid-2019 introduced the first lab-grown steak,⁴ the Singaporean company Shiok Meats, which specializes in lab-grown shrimp,⁵ and Beyond Meat, which produces imitation beef, pork and chicken in its Chinese facilities.

Then there's the Impossible Burger, made with genetically engineered (GE) soy, which is now available in burger chains,⁶ restaurants,⁷ grocers⁸ and Target stores⁹ across the U.S.

Despite claims of sustainability, a careful review of its 2019 Impact Report¹⁰ and other data^{11,12,13} reveals this soy-based "meat" actually causes greater environmental harm than organic grass fed beef production, which has net negative emissions after all relevant factors are taken into account.¹⁴

A Carbon Footprint Evaluation report¹⁵ for White Oak Pastures — an organic, grass fed livestock operation — shows that when you include enteric emissions, manure emissions, soil carbon capture, vegetation carbon, miscellaneous farm activities,

slaughter and transport, the total net carbon emissions from this type of beef production has a negative 3.5 kilos of carbon emissions per kilo of fresh meat.

This makes this integrated, holistic system six times more carbon efficient than the average CAFO (confined animal feeding operation) production model.¹⁶ The same cannot be said for GE soy. Data also show GE soybean and corn farms are a primary source of water¹⁷ and air pollution,¹⁸ and are primary destroyers of grasslands and forests.^{19,20}

Regenerative grazing is actually a key activity required for the optimal sequestering of carbon dioxide from the atmosphere into our rangelands and pasturelands, while GE soy production is associated with resistant super weeds²¹ and super pests and uncontrollable cross contamination.

Taken together, these data prove that if sustainability and environmental protection are in fact priorities, then regenerative farming practices that incorporate grazing herds are the way to go, not fake meat and junk food manufacturing.

Fake Meat Is Another Effort to Control Food Supply

Considering everything we know, why won't our leaders support organic, regenerative, biodynamic farming proven to have a beneficial impact on the environment, climate and human health? It seems like doing so would be a no-brainer.

The answer, unfortunately, is that it's not really about doing what's best for the planet or its inhabitants. It's about wealth and power building. In short, the rise of fake meat is yet another attempt at controlling the global food supply through patents, just like staple grains have been genetically altered and patented.

Once living animals are eliminated and replaced with patented plant-derived alternatives – just like tradable heirloom and conventional seeds were replaced with patented seeds you have to pay for each season – private companies will effectively control the food supply in its entirety, and they will be the ones profiting from it rather than farmers.

By controlling the food supply, private corporations will ultimately have the ability to control countries and entire populations. If we allow this trend to continue, biotech companies will eventually push farmers and ranchers out of the equation.

Looking down the road, it's easy to see that patented foods actually threaten food security. They don't strengthen it at all.

Environmentalist and anti-GMO activist Vandana Shiva, Ph.D., is an outspoken critic²² of the industrial food movement and the GE food takeover specifically, highlighting the many social and environmental problems a patented food system creates.

As noted by Shiva in a June 18, 2019, article,²³ "Biodiversity-intensive and poison-free agriculture ... produces more nutrition per acre while rejuvenating the planet. It shows the path to 'Zero Hunger' ..." She also points out that while industrial agriculture uses 75% of available farmland, it produces just 30% of the food we actually eat.

"Meanwhile, small, biodiverse farms using 25% of the land provide 70% of the food," she writes.²⁴ "At this rate, if the share of industrial agriculture and industrial food in our diet is increased to 45%, we will have a dead planet. One with no life and no food.

The mad rush for Fake Food and Fake Meat, ignorant of the diversity of our foods and food cultures, and the role of biodiversity in maintaining our health, is a recipe for accelerating the destruction of the planet and our health."

Fake Meat Is Ultraprocessed Food

Indeed, when it comes to nutrition and health, there's absolutely no reason to believe any of these imitation meats will be better – or even equal – to real meat.

“ Products at the far end of the "significantly altered" spectrum have been robustly linked to obesity, ill health and early death. ”

Any food that isn't directly from the vine, ground, bush, tree, body of water or an animal is considered processed. Depending on the amount of change the food undergoes, processing may be minimal or significant. A hallmark of ultraprocessed foods is their long ingredient lists.

Products at the far end of the "significantly altered" spectrum have been robustly linked to obesity,²⁵ ill health and early death in a number of studies.^{26,27,28,29,30}

For example, in one study,^{31,32,33,34} which included 104,980 participants followed for an average of five years, each 10% increase in ultraprocessed food intake raised the cancer rate by 12%, which worked out to nine additional cancer cases per 10,000 people per year. The risk of breast cancer specifically went up by 11% for every 10% increase in ultraprocessed food.

While sugar and unhealthy fats (vegetable oils) are key staple ingredients suspected of causing these effects, there's every reason to believe fake meat has a similar impact as I referenced in the section above. All of these factors place fake meat squarely in the higher-risk ultraprocessed category.

Enter Human Cell-Based Meat

Now, in a move reminiscent of something straight out of the dystopian film "Soylent Green," scientists are even working on meat grown from human cells harvested from the inside of your cheek.^{35,36}

The inventors of this grisly product — presented as "art," for the time being — are Andrew Pelling, a scientist and founder of the biotech company Spiderwort; Grace Knight, an industrial designer; and Orkan Telhan, an artist. As reported by Tech Times, November 22, 2020:³⁷

"A new 'DIY meal kit' that can be used to grow steaks that are made mostly from human cells was just recently nominated by the London-based Design Museum as the 'design of the year.'³⁸

Called 'Ouroboros Steak,' this is named right after the circular symbol of a snake known for eating itself tail-first. This hypothetical kit would later on come with everything that one person would need in order to use their own cells to grow miniature human meat steaks ..."

The human-cell steak kits are not yet commercially available, but one wonders what possessed someone to even think this might be a viable idea. Would you eat a lump of meat made from your own body? Critics have raised questions about whether this would be considered cannibalism. Defenders of the concept claim it's not, since it's grown from your own cells.³⁹

However, if this concept ever does become commercially available, what's to prevent you from growing meat using other people's cells? Is it only cannibalism if you eat the cloned meat of someone other than yourself? These tricky debates aside, the ick factor alone will likely prevent this concept from taking off.

Tech Times points out that this particular concept also isn't nearly as animal-friendly as people might think, as the human cells are grown in fetal bovine serum — blood extracted from unborn calf fetuses.⁴⁰ An alternative might be to use expired human blood from blood banks.⁴¹

Real Food = Life

In her 2019 article,⁴² Shiva discussed the progressive attempts at industrializing the global food system with more fake foods and fake meats, and the destruction that inevitably follows:

"Food is not a commodity, it is not 'stuff' put together mechanically and artificially in labs and factories. Food is life. Food holds the contributions of all beings that make the food web, and it holds the potential of maintaining and regenerating the web of life.

Food also holds the potential for health and disease, depending on how it was grown and processed ... As an ancient Upanishad reminds us 'Everything is

food, everything is something else's food' Hippocrates said 'Let food be thy medicine.' In Ayurveda, India's ancient science of life, food is called 'sarvausadha' the medicine that cures all disease.

Industrial food systems have reduced food to a commodity, to 'stuff' that can then be constituted in the lab. In the process both the planet's health and our health has been nearly destroyed.

75% of the planetary destruction of soil, water, biodiversity, and 50% of greenhouse gas emissions come from industrial agriculture, which also contributes to 75% of food related chronic diseases."

When you look at the whole ecological cycle – of which grazing herds are a crucial part – you can clearly see how industrial agriculture and fake meat manufacturing are key drivers of progressive destruction, yet this destructive cycle is defended in the name of affordable food and the need to feed a growing population.

While we certainly need to maximize food production in affordable ways, what's being proposed is incredibly short-sighted as it shifts all food production into laboratories and factories that produce patented foods, the profits of which never reach the population at large.

One also has to wonder whether humans will be able to live long productive lives eating an all-fake diet. Think about it. Grain production is already dominated by patented GE grains. Add to that imitation "milk" and "egg" products and imitation beef, poultry and seafood and what real food do you have left?

Fruits and vegetables, basically, but even these foods will eventually become fair game for reengineering and patenting. It's a dangerous trend that poses tremendous risks to food security and global health.

Choose Organic, Biodynamic and/or Grass Fed

For years, I have advocated for an organic (or better yet biodynamic) diet to optimize your health, avoid common health problems, help regenerate the environment and normalize climate. Choosing organic foods reduces your exposure to pesticides, herbicides, GE ingredients, synthetic food additives and nano ingredients, many of which do not appear on the food label.

In addition to protecting the environment and rebuilding soil, buying organic also supports animal welfare and promotes biodiversity of plants and wildlife. Although many see lab-created meat substitutes as the lesser of two evils when compared to the concentrated animal feeding operations 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 diet-related health conditions 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) certified meats. These accreditations designate foods produced under high-quality, sustainable and environmentally sound practices.

Sources and References

- ¹ [Weforum.com October 16, 2020](#)
- ² [News Medical Life Sciences February 26, 2019](#)
- ³ [An investigation of the formulation and nutritional composition of modern meat analogue products Food Science and Human Wellness](#)
- ⁴ [Weforum.com July 23, 2019](#)
- ⁵ [Shiok Meats](#)
- ⁶ [Impossible Foods Burger King](#)
- ⁷ [Businesswire January 15, 2019](#)

- ⁸ Businesswire August 25, 2020
- ⁹ Veg News September 4, 2020
- ¹⁰ Impossible Foods 2019 Impact Report
- ^{11, 23, 24, 42} Independent Science News June 18, 2019
- ^{12, 14, 15} Quantis, Carbon footprint evaluation of regenerative grazing at White Oak Pastures, February 25, 2019
- ^{13, 16} Savory Institute responds to Impossible Burger's attack on regenerative agriculture
- ¹⁷ Natural Resources Defense Council, May 14, 2018
- ¹⁸ UVA Today September 14, 2016
- ¹⁹ Grist, December 31, 2009
- ²⁰ TandF Online, March 31, 2016
- ²¹ Organic Consumers Association February 6, 2013
- ²² Encyclopedia Britannica
- ²⁵ Cell Metabolism, 2019; doi.org/10.1016/j.cmet.2019.05.008
- ²⁶ JAMA Internal Medicine February 11, 2019;179(4):490-498
- ²⁷ BMJ February 14, 2018; 360
- ²⁸ JAMA 2017;317(9):912-924
- ²⁹ BMJ, 2019;365:l1451
- ³⁰ BMJ, 2019;365:l1949
- ³¹ BMJ 2018; 360:k322
- ³² BBC News February 15, 2018
- ³³ Time Magazine February 14, 2018
- ³⁴ The Guardian February 14, 2018
- ^{35, 39, 41} Mysterious Universe November 17, 2020
- ³⁶ Metro November 18, 2020
- ^{37, 40} Tech Times November 22, 2020
- ³⁸ Design Museum, Ouroboros Steak