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Why the Fake Food Race Is Worth $3 Trillion

Once living animals are eliminated and replaced with patented plant-derived alternatives, private companies will effectively control the food supply in its entirety, and those who control the food control the people.

By Dr. Joseph Mercola

Story at-a-glance:

- Industrial agriculture is a key driver of environmental destruction and ill health, yet this destructive cycle is defended in the name of affordable food and the need to feed the masses.
- Industrial agriculture uses 75% of available farmland yet produces just 30% of food consumed globally. Small biodiverse farms use 25% of land and provide 70% of our diet. If the industrial agriculture share continues to rise, it will eventually kill the whole planet and eliminate any possibility of growing food.
- The rise of fake meat is an attempt at recreating the same global control of the food supply that Monsanto and others achieved through patented GMO seed development.
- Once living animals are eliminated and replaced with patented plant-derived alternatives, private companies will effectively control the food supply in its entirety, and those who control the food control the people.
- Testing reveals Impossible Burger contains 11.3 ppb of glyphosate; animal studies show 0.1 ppb of glyphosate can alter the function of more than 4,000 liver and kidney genes and cause organ damage.

For years, I have advocated for an organic diet to optimize your health, avoid common health problems and help regenerate the environment.

Choosing organic foods reduces your exposure to pesticides, herbicides, genetically engineered (GE) foods, 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 the biodiversity of plants and wildlife.

Unfortunately, Americans not only eat a preponderance of processed food, but 57.9% of it is ultra-processed — products at the far end of the "significantly altered" spectrum that have been robustly linked to obesity, ill health and early death in a number of studies.

The developed world in general eats significant amounts of processed food, and disease statistics reveal the ramifications of this trend. Any food that isn't directly from the vine, ground, bush, body of water or a tree is considered processed.

Depending on the amount of change the food undergoes, processing may be minimal or significant. For instance, frozen fruit is usually minimally processed, while pizza, soda, microwave meals and lab-created meat alternatives fall into the ultra-processed category.

The rise of processed and ultra-processed food as dietary staples also has a largely hidden impact, in that it threatens overall food security.

While edible gardens have become more popular in recent years, few are growing their own food these days, relying instead on processed fare from the grocery store, much of which is made with patented GE ingredients.

Who profits the most from GE food? The patent holders — large, multinational corporations beholden to their shareholders rather than the local community in which the crops are grown, reap the profits.

Vandana Shiva, Ph.D., has been an outspoken critic of the industrial food movement and the GE food takeover, specifically, highlighting the many social and environmental problems a patented food system creates.

Industrialization of food threatens mankind's survival

In a recent Independent Science News article, Shiva discusses the progressive attempts at industrializing the global food system with more fake foods and fake meats, and the destruction that inevitably follows.

Shiva said:

> "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."

Importantly, the industrialization of agriculture, in which heavy use of chemicals is the norm, denatures soil, destroys its fertility and does not return organic matter back into it. As a result, it degrades land and turns it into desert — the complete opposite of what a healthy system does.

Industrial agriculture also threatens global water supplies, draining aquifers faster than they can refill and contaminating what's left with toxic chemicals and excess nutrients that drive toxic algae growth, resulting in vast dead zones. Plant and wildlife diversity — especially pollinating insects — are also decimated by chemical monoculture.

When you look at the whole ecological cycle, you can clearly see how industrial agriculture is a key driver of progressive destruction, yet this destructive cycle is defended in the name of affordable food and the need to feed the masses.

While we certainly need to maximize food production in affordable ways, the current system is incredibly short-sighted.

While it may be helpful in the moment, its environmental effects are creating a world in which future generations will be unable to grow food or find potable water.

It may sound like a fear-mongering exaggeration, but we're really precipitously close to a time in which vast populations will be wiped out, lest we radically and rapidly change course.

It's important to realize that once topsoil is eradicated, you cannot grow food no matter how many chemicals you add to it.

In 2014, Maria-Helena Semedo, deputy director general of natural resources for the Food and Agriculture Organization of the United Nations, warned that at the current rate of topsoil degradation, all the world's topsoil will be gone in less than 60 years.

Today, that means we may have only about 55 years left. Water shortages are also becoming a pressing problem around the world.

Path to zero hunger

As noted by Shiva, "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. "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.

Shiva adds:

> "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."

Shiva responds to Impossible Foods' defense of GMO soy

By now, you're probably aware of the latest food fad: The Impossible Burger, hailed by many vegans and Silicon Valley investors as the answer to environmental problems blamed on livestock.

Impossible Foods' fake meat is made with GMO soy, specifically chosen by the company for its "sustainability."

Senior manager of impact strategy, Rebekah Moses, recently told FoodNavigator-USA:

> "We have done a tremendous amount of diligence and we're confident that in using GMO soy, we are not taking a step backward in terms of sustainability."

In her article in Independent Science News, Shiva rebuts the company's claim, noting that:

> "Given the fact that 90% of the monarch butterflies have disappeared due to Roundup Ready Crops, and we are living through what scientists have called an 'insectageddon,' using GMO soy is hardly an 'environmentally responsible option.'"

Shiva also points out the company's "total ignorance" of the fact that herbicide-resistant superweeds are driving the use of ever greater amounts of more toxic herbicides.

As reported by the St. Louis Post-Dispatch, 2,4-D — linked to cancer and endocrine dysfunction and known for its drift potential — will be doused on millions of additional acres of farmland across the Midwest and South this year.

Attempts to restrict the use of dicamba in Arkansas, which has decimated the non-dicamba-resistant crops over the past couple of years, also failed, with regulators choosing to relax restrictions instead.

Shiva writes in Independent Science News:

> "At a time when across the world the movement to ban GMOs and Roundup is growing, promoting GMO soya as 'fake meat' is misleading the eater both in terms of the ontology of the burger, and on claims of safety."

Impossible Burger — a significant source of toxic glyphosate

Indeed, recent testing instigated by Moms Across America reveals the Impossible Burger contains glyphosate — a given, really, considering it's made with GMO soy, as the herbicide becomes integrated into the whole plant and cannot be washed off.

As reported by Moms Across America on May 16, 2019:

> "The total result (glyphosate and it's break down AMPA) was 11.3 ppb. Moms Across America also tested the Beyond Meat Burger and the results were 1 ppb …
>
> "This new product is being marketed as a solution for 'healthy' eating, when in fact 11 ppb of glyphosate herbicide consumption can be highly dangerous. Only 0.1 ppb of glyphosate has been shown to alter the gene

> function of over 4000 genes in the livers, kidneys and cause severe organ damage in rats.
>
> "The Impossible Burger is made of GMO soy, which has been shown to cause organ damage in animal studies and has been shown to be significantly different from non-GMO soy.
>
> "The GM ingredients of the Impossible Burger, which includes a genetically modified yeast and GM soy leghemoglobin proteins, 46 of which are undisclosed and untested, are even more concerning to many consumers than the long-term health effects from glyphosate because of the reported immediate allergic reaction potential, which is acknowledged by the manufacturer."

Moms Across America also points out that while Impossible Foods claims the key ingredient in its fake meat — leghemoglobin soy — "has been consumed for hundreds of thousands of years," Michael Hansen, Ph.D., a senior scientist at Consumers Union (a Consumers Reports division), has stated, "This is categorically not true."

In the same article, Living Maxwell goes on to say:

> "An email to Impossible Foods asking 'How could the heme in the Impossible Burger be 'identical' to the heme humans have been consuming for hundreds of thousands of years in meat and other foods if you genetically engineer it?' has yet to be returned."

What's more, Living Maxwell points out that while the company told the U.S. Food and Drug Administration that its soy leghemoglobin was "substantially similar" to proteins consumed in meat and other vegetables, Impossible Foods now tells customers (on its website) that this GE heme is "identical" to that found in other foods.

Just how many GE ingredients does Impossible Burger contain?

Moms Across America also warns that GMO soy might not be the only ingredient in the Impossible Burger contributing to the glyphosate load. Several of the ingredients in its fake meat are also available in GE form (although it's unknown whether the company is using GE sources for them), and others may be desiccated (dried) with glyphosate right before harvest.

In short, any or all of the following ingredients in the Impossible Burger could potentially be GMO and/or contaminated with glyphosate:

> "... Soy Protein Concentrate ... Sunflower Oil, Natural Flavors ... Potato Protein, Methylcellulose (possibly from cotton), Yeast Extract, Cultured Dextrose, Food Starch Modified, Soy Leghemoglobin ... Soy Protein Isolate, Mixed Tocopherols (Vitamin E) ... Thiamine Hydrochloride (Vitamin B1), Sodium Ascorbate (Vitamin C), Niacin, Pyridoxine Hydrochloride (Vitamin B6), Riboflavin (Vitamin B2), Vitamin B12."

Hypothetically, the Impossible Burger may be nearly all GMO, as only four ingredients on its list are unlikely to be GMO: water, coconut oil, zinc gluconate and salt.

To quote Shiva again:

> "Recent court cases have showcased the links of Roundup to cancer. With the buildup of liabilities related to cancer cases, the investments in Roundup Ready GMO soya is blindness to the market. Or the hope that fooling consumers can rescue Bayer/Monsanto."

Meat-simulated products are about profits and control

Shiva also points out another "ontological confusion" relating specifically to the fake meat industry.

According to Impossible Foods, the GE yeast-derived "heme" is what makes the Impossible Burger "deliver the delicious explosion of flavor and aroma that meat-eating consumers crave."

"I had thought that the plant-based diet was for vegans and vegetarians, not meat lovers," Shiva said.

It's a fair assumption, no doubt. But what's really driving the burgeoning fake meat industry is not actually a vegan mindset, rather the ultimate goal is to replace real meat altogether with a patented product.

Shiva writes:

> "Indeed, the promotion of fake foods seems to have more to do with giving new life to the failing GMO agriculture and the Junk Food Industry, and the threat to it from the rising of consciousness and awareness everywhere that organic, local, fresh food is real food which regenerates the planet and our health.
>
> "This is about profits and control. He, and those jumping on the Fake Food Goldrush, have no discernible knowledge, or consciousness about, or compassion for living beings, the web of life, nor the role of living food in weaving that web.
>
> "Their sudden awakening to 'plant-based diets,' including GMO soya, is an ontological violation of food as a living system that connects us to the ecosystem and other beings, and indicates ignorance of the diversity of cultures that have used a diversity of plants in their diets."

In short, the rise of fake meat is an attempt at recreating the same global control of the food supply that Monsanto and others achieved through patented GMO seed development.

Now they want to do the same thing with animal products, and once-living animals are eliminated and replaced with patented plant-derived alternatives — just like tradable heirlooms 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.

As Shiva points out, the rise and massive growth of fake foods will not solve any of our problems, but will "accelerate the rush to collapse" of our food system, ecology, human health and farmers' livelihoods.

I would add that it will accelerate the elimination of personal freedoms and liberties because he who controls the food controls the people.

Impossible Foods attacks regenerative farming

As I've discussed in a previous article, Impossible Foods directly attacks regenerative ranching in its 2019 Impact Report, claiming grass-fed cattle ranching generates higher amounts of greenhouse gas emissions than cows raised in concentrated animal feeding operations (CAFOs).

This is despite recent evidence proving grass-fed ranching actually has net negative emissions after all relevant factors are taken into account.

According to a third-party lifecycle analysis — performed by the very same company that conducted Impossible Burger's lifecycle analysis — the carbon footprint of beef from White Oak Pastures (a regenerative farm) is 111% lower than conventional CAFO beef, as the "system effectively captures soil carbon, offsetting a majority of the emissions related to beef production."

All things considered, including enteric emissions, manure emissions, soil carbon capture, vegetation carbon, miscellaneous farm activities, slaughter and transport, the total net carbon emissions from the beef production on White Oak Pastures were found to be a negative 3.5 kilos (kg) of carbon emissions per kilo of fresh meat, making this integrated, holistic system six times more carbon efficient than the average CAFO production model.

Meanwhile, Impossible Foods' soy-based fake meat is still a carbon emitter.

As reported by Civil Eats, while grass-fed beef has a net carbon sink of 3.5 kg per kg of fresh meat, conventional soybeans produce 2 kg of carbon emissions for each kg of food, and pea protein (which Beyond Burger uses for its meat substitute) produces 4 kg of carbon for every kg of food.

So just how can fake meat be considered a more environmentally sound alternative than regenerative farming?

In addition to still being a carbon emitter, GMO soy does nothing to regenerate and build soils, nothing to protect our insect and wildlife population, nothing to increase plant diversity and nothing to improve the human health of consumers.

On the contrary, corn and soy, both conventional and GMO, are eliminating grasslands across the U.S. at the "fastest pace since the 1930s," The Washington Post reported back in 2013.

This conversion of grasslands and prairies into mono-crop farm fields may actually be among the very worst environmental impacts of all.

As noted in the Christian Science Monitor, prairie restoration (which is part of the regenerative agriculture model) "improves water retention and sequesters carbon in the soil."

Understanding the scalability of regenerative agriculture

When confronted with the discrepancy and asked for a comment, an Impossible Foods spokesperson told Civil Eats they are "trying to raise awareness that grass-fed, extensive production is simply not scalable." Aside from sidestepping the question, this claim isn't firmly rooted in reality, either.

White Oaks Pastures owner Will Harris told Civil Eats:

> "White Oak Pastures will never be a multinational corporation. There will never be a truly regenerative, humane, fair farm that will scale to a national level — much less multinational. Instead, every rural county in all 50 states should have a White Oak Pastures or two. That's the way it used to be."

In other words, one must not confuse regenerative agriculture with the industrial agriculture model where a small number of companies are producing a majority of the food.

The regenerative model requires an increase in the number of farms, not an increase in the number of cattle raised per farm. This has civil and local community benefits as well that are difficult to put a real price tag on.

In response to Impossible Foods' baseless attack on regenerative agriculture, Harris has issued an open invitation to Impossible Foods' officials to visit his farm to get a thorough understanding of how regenerative grazing actually works.

Fertilizer industry is a major emitter of methane

In related news, recent research has also found the fertilizer industry in the U.S. emits a whopping 29 gigagrams of methane per year — over 100 times more methane than previous industry estimates at 0.2 gigagrams per year.

Emissions from the fertilizer industry alone are also three times higher than the Environmental Protection Agency's (EPA) estimate for all methane-producing industries combined, which it claims produces 8 gigagrams of methane per year.

The reason for such high methane emissions by the fertilizer industry is because it uses natural gas (which is largely methane).

Co-author John Albertson told New Atlas:

> "We took one small industry that most people have never heard of and found that its methane emissions were three times higher than the EPA assumed was emitted by all industrial production in the United States. It shows us that there's a huge gap between a priori estimates and real-world measurements.
>
> "[N]atural gas is largely methane, which molecule-per-molecule has a stronger global warming potential than carbon dioxide. The presence of substantial emissions or leaks anywhere along the supply chain could make natural gas a more significant contributor to climate change than previously thought."

Diet is a determining factor for health and longevity

Anyone delusional enough to believe they can live a long, healthy life sustained by synthetic chemicals, toxic grains (conventional or GMO grains contaminated with pesticides and herbicides) and fake meat derived from said toxic grains is likely to, sooner or later, get a rude awakening.

While one may argue indefinitely over what type of diet is best, there's simply no argument that real food is better for the human body than a synthetic and toxic one. Any claim to the contrary can safely be disregarded as a PR ploy.

So, if you care about your health and well-being, you simply need to make real food a high priority. To get started, consider the following guidelines:

- Focus on raw, fresh foods and avoid as many processed foods as possible (if it comes in a can, bottle or package and has a list of ingredients, it's processed).
- Replace sodas and other sweetened beverages with pure, filtered water.
- Shop around the perimeter of the grocery store where most of the whole foods reside, such as meat, fruits, vegetables, eggs and cheese. Not everything around the perimeter is healthy, but you'll avoid many of the ultra-processed foods this way.
- Vary the whole foods you purchase and the way you eat them. For instance, carrots and peppers are tasty dipped in organic hummus. You get the crunch of the vegetable and smooth texture of the hummus to satisfy your taste, your brain and your physical health.
- Stress creates a physical craving for fats and sugar that may drive your addictive, stress-eating behavior. If you can recognize when you're getting stressed and find another means of relieving the emotion, your eating habits will likely improve.

The Emotional Freedom Techniques can help reduce your perceived stress, change your eating habits around stress and help you create new, healthier eating habits that support your long-term health.

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The views and opinions expressed in this article are those of the authors and do not necessarily reflect the views of Children's Health Defense.

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Dr. Joseph Mercola

Dr. Joseph Mercola is the founder of Mercola.com.