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Why Synthetic Food Is Very Dangerous

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Theme: Biotechnology and GMO

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We know even less about the constituents of processed foods and synthetic foods, which falsely claim to be "equivalents" to whole foods, such as "animal-free meats" or "animal-free milk"

Scientists cannot create equivalence when they don't even know what 85% or more of the whole food they're trying to replicate consists of.

A paper published in the April 2023 issue of Animal Frontiers warns that cultured products are not nutritionally equivalent to the meats they're intended to replace

A May 2023 report by the Food and Agriculture Organization concluded there are at least 53 potential health hazards associated with lab-grown meat, including the possibility of contamination with heavy metals, microplastics, nanoplastics and chemicals, allergenic additives, toxic components, antibiotics and prions.

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Do you know what's in the food you eat? Remarkable as it may seem, 99% of the components making up whole food are a complete mystery. As reported by New Scientist in July 2020:[1]

> "We know next to nothing about the vast majority of compounds in our diet … 'Our understanding of how diet affects health is limited to 150 key nutritional components,'[2]says Albert-László Barabási at Harvard Medical School, who coined the

term “nutritional dark matter.”

> ‘But these represent only a small fraction of the biochemicals present in our food’ … The idea that food is a rich and complex mix of biochemicals is hardly news.
>
> Even the well-known macronutrients — proteins, carbohydrates and fats — are hugely diverse. There’s also a vast supporting cast of micronutrients: minerals, vitamins and other biochemicals, many of which are only present in minuscule quantities, but which can still have profound health effects.”

The official source of nutritional information is the U.S. Department of Agriculture’s (USDA) National Nutrient Database for Standard Reference.[3] It lists the composition of hundreds of thousands of foods, but it’s not as detailed as you might imagine.

In all, it details only 188 nutritional components, including 38 flavonoids, yet scientists estimate there are more than 26,000 different biochemicals in our food.[4,5]

As noted by New Scientist,[6] “with the USDA as your guide, 99.5% of the components in food are a mystery,” and as noted by Barabási, “It would be foolish to dismiss 99.5% of the compounds we eat as unimportant[7] … We will not really understand how we get sick if we don’t solve this puzzle.”[8]

Searching for Nutritional ‘Dark Matter’

Disturbed by the information gap, an international team of researchers started working on a more comprehensive database a decade ago called FooDB,[9] which as of 2020 contained information on some 70,000 nutritional compounds.

Yet even this database still has a long way to go. An estimated 85% of the nutritional components listed remain unquantified, meaning they know a food contains a particular component, but they don’t know how much. The health implications of most compounds also remain largely unknown. New Scientist notes:[10]

> “This is also true of individual micronutrients. ‘Consider beta-carotene,’ says Barabási. ‘It tends to be positively associated with heart disease, according to epidemiological studies, but studies adding beta-carotene to the diet do not show health benefits.
>
> One potential reason is that beta-carotene never comes alone in plants; about 400 molecules are always present with it. So epidemiology may be detecting the health implications of some other molecule.’
>
> Another probable cause is the effect of the microbiome on dark nutrients, says [FooDB founder David] Wishart. ‘Most dark nutrients are chemically transformed by your gut bacteria.
>
> That’s probably why studies on the benefits of different foods give relatively ambiguous results. We don’t properly control for the variation in gut microflora, or our innate metabolism, which means different people get different doses of metabolites from their food.’”

Processed Foods Are an Even Greater Mystery

The reason I started with that background is because we know even less about the constituents of processed foods and synthetic foods that ignorantly claim to be "equivalents" to whole foods, such as "animal-free meats" or "animal-free milk."

Food processing alone will often alter the composition of bioactive molecules in a food, and hence the food's impact on health,[11] but today, processed foods also contain a wide array of synthetic chemicals that, prior to the modern era, were never part of the human diet. As such, they pose incredible risks to long term health and well-being. Processed foods may also have intergenerational effects.

In recent years, the idea that we can simply replace whole foods with synthetic, genetically modified or lab-grown alternatives that are wholly equivalent to the original food has taken root. In reality, that's simply impossible.

How can scientists create equivalence when they don't even know what 85% or more of the whole food they're trying to replicate consists of? Common sense will tell you they can't. It might look, smell and even taste similar, but the micronutrient composition will be entirely different, and as a result, the health effects will be incomparable as well.

Animal-Free Equivalence Is a PR Fraud

Take cultured meat, for example. It's said to be equivalent to real animal meat because it's grown from animal cells. The cells are then grown in a nutrient solution inside a bioreactor until it becomes a meat-like slab.

Similarly, Bored Cow[12] animal-free milk is a dairy alternative made with whey protein obtained through a fermentation process, plant-based fats (in lieu of milk fats), citrus fiber (for creaminess) and added vitamins and minerals.

Defenders of cultured meat insist that this product is not "fake meat" but "actual meat,"[13] the only difference being that no animal had to be slaughtered to create it. Cultured meat and other synthetic foods are also said to be more environmentally friendly. But nothing could be further from the truth.

Their impact is far more akin to that of the pharmaceutical industry than the food industry. According to a recent "cradle-to-gate life cycle" analysis,[14,15,16,17] the lab-grown meat industry produces anywhere from four to 25 times more CO_2 than traditional animal husbandry.

Based on this assessment, each kilo of cultured meat produces anywhere from 542 pounds (246 kilos) to 3,325 pounds (1,508 kg) of carbon dioxide emissions, making the climate impact of cultured meat four to 25 times greater than that of conventional beef. And this information is only provided to refute those who believe the global warming fallacy.

As noted by the authors, investors have poured billions of dollars into animal cell-based meat (ACBM) sector based on the theory that cultured meat is more environmentally friendly than beef. But according to these researchers, that hype is based on flawed analyses of carbon emissions.

Cultured meat is also the epitome of ultraprocessed food[18] and therefore likely to cause health problems like those caused by other ultraprocessed foods, such as obesity,[19] cardiovascular diseases, Type-2 diabetes, metabolic syndrome, irritable bowel syndrome, cancer,[20] mental health problems[21] and increased all-cause mortality.[22,23,24,25,26]

A paper[27] published in the April 2023 issue of Animal Frontiers also warned that there are several implications of cell-based meat that need to be considered, but aren't, including the fact that cultured products are not nutritionally equivalent to the meats they're intended to replace.

The claim that no animals are killed in the process is also false. At present, most cultured or cell-based meats are created by growing animal cells in a solution of fetal bovine serum (FBS), which is made from the blood of unborn calves. In short, pregnant cows are slaughtered to drain the unborn fetus of its blood.

Is It Safe to Eat Tumors?

There are also many unanswered questions surrounding safety. For example, to get the cell cultures to grow, some companies are using immortalized cells, which technically speaking are precancerous and/or fully cancerous.[28] (Other companies use embryonic stem cells or cells from living animals.[29])

The reason for using immortalized cells is because normally behaving cells cannot divide forever. Most cells will only multiply a few dozen times before they become senescent (old) and die.

This won't work when your intention is to grow thousands of pounds of tissue from a small number of cells, hence they use immortalized cells that have no off switch for their replication and can divide indefinitely.

Meat substitutes cultured in this way could therefore be thought of as tumors, seeing how the flesh is entirely made up of precancerous or cancerous cells. Is it safe to eat tumors? We don't know.

MIT biologist **Robert Weinberg**, Ph.D., has proposed that humans can't get cancer from these cells because they're not human cells and therefore cannot replicate inside your body.[30] However, there's no long-term research to back this theory.

Dietary Headaches to Come

It's also important to realize that the nutritional composition and safety of synthetic foods will vary depending on the brand.

When you're dealing with beef, for example, the meat from one cow will be relatively identical to that of any other cow (one major exception being the way they're raised and fed). One wild-caught salmon is comparable to any other wild-caught salmon, and each russet potato is more or less identical to every other russet potato.

But since each synthetic food brand uses proprietary ingredients and processes, no two will

have the identical composition or safety, so even if one is eventually proven safe and nutritious, those results cannot be applied to any other brand.

This variance has the potential to create major problems in the future when all sorts of foods have been replaced with synthetic non-equivalents. How do you determine which cultured beef, chicken or salmon brand might be best for you? How will you devise a sensible diet plan when every food comes in myriad variations of varying composition and safety?

Synthetic Foods Pose Unique Food-Safety Hazards

Many synthetic food proponents claim lab-created food will bypass a host of food-safety problems, but the converse is far more likely to be true. Sure, beef, for example, can be contaminated during processing, packaging, transport or storage, or during the cooking process.

But in cultured meat, every ingredient and processing step brings with it the potential of contamination, and any of the hundreds of ingredients could have toxic effects, alone or in synergy.

Indeed, an in-depth analysis[31,32] of the available evidence by the Food and Agriculture Organization of the United Nations (FAO) and a World Health Organization expert panel, published in May 2023, concluded there are at least 53 potential health hazards associated with lab-grown meat.

Among them are the possibility of contamination with heavy metals, microplastics, nanoplastics and chemicals, allergenic additives, toxic components, antibiotics and prions.

What's more, some of the ingredients that go into synthetic biology like cultured meat are regulated as "non-detectable manufacturing aids," and you won't even know what they are. Israeli startup Profuse Technology, for example, has developed a growth media supplement that massively encourages protein growth.

As reported by Food Navigator Europe in an article titled "Cultivated Meat 'Breakthrough': Media Supplement Achieves Full Muscle Maturation on Scaffold Within 48 Hours."[33] The supplement reduces the time to grow filets and steaks by 80% and augments the protein in the final product by a factor of five.

An Unsustainable Model

The cultured meat process also produces toxic biowaste — a problem that doesn't exist in conventional agriculture and food processing. In the video above, Alan Lewis, vice president of government affairs for Natural Grocers, reviews what goes into the making of synthetic biology.

The starting ingredients are typically cheap sugars and fats derived from genetically engineered corn and soy, grown in environmentally destructive monocultures with loads of herbicides, pesticides, and synthetic fertilizers.

As a result, they're loaded with chemical residues. Hundreds of other ingredients may then be added to the ferment to produce the desired end product, such as a certain protein,

color, flavor or scent. The most-often used microorganism in the fermentation process is E. coli that has been gene-edited to produce the desired compound through its digestive process.

The microorganism must also be antibiotic-resistant, since it needs to survive the antibiotics used to kill off other undesirable organisms in the vat. As a result, antibiotic-resistant organisms also become integrated into the final product, and the types of foodborne illness that might be caused by gene-edited antibiotic-resistant E. coli and its metabolites are anyone's guess.

In addition to the desired target metabolite, these gene-edited organisms may also spit out non-target metabolites with unknown environmental consequences and health effects. But that's not all. Once the target organisms are extracted, what's left over is hazardous biowaste.

While traditional fermentation processes, such as the making of beer, produce waste products that are edible by animals, compostable and pose no biohazard, the biowaste from these synthetic biology ferments must first be deactivated, and then must be securely disposed of. It cannot go into a landfill.

Protect Your Health by Avoiding Frankenfoods

Making food that requires GMO inputs and produces more CO_2 than conventional farming and hazardous biowaste to boot is hardly a sustainable model. But then again, synthetic biology and processed foods are not being pushed out of true concern for sustainability.

If that was the goal, everyone would be looking at regenerative agriculture where every part of the system supports and sustains other parts, thereby eliminating the need for chemical inputs, radically reducing water needs while optimizing yields.

No, synthetic biology is pursued because it is a formidable control mechanism. Those who own all the synthetic food production will control the world in a very literal sense. To learn more about this plot for control, see "The Fake 'Food as Medicine' Agenda."

In short, the globalists already own and control most of the carbohydrates grown in the world today. By replacing real animal foods with patented lab-made protein alternatives, they'll have unprecedented power to control the world's population.

It'll also grant them greater control over people's health. It's already known that the consumption of ultraprocessed food contributes to disease, and the benefactor of ill health is Big Pharma.

The processed food industry has spent many decades driving chronic illness that is then treated with drugs rather than a better diet. Synthetic foods will likely be an even bigger driver of chronic ill health and early death.

The fact is, fake meat and dairy cannot replace the complex mix of nutrients found in grass-fed beef and dairy, and it's likely that consuming ultraprocessed meat and milk alternatives may lead to many of the same health issues that are caused by a processed food diet. So, if you want to really protect your health and the environment, skip pseudofoods that require patents and stick to those found in nature instead.

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Notes

[1, 6, 7, 10] New Scientist July 22, 2020 (Archived)

[2, 4] Nature Food 2020; 1: 33-37

[3] National Nutrient Database for Standard Reference (Archived)

[5] Afekta February 26, 2020

[8] Inside Science December 9, 2019

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[11] Knowable Magazine September 20, 2023

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[13] Food Safety News September 19, 2023

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[15] New Scientist May 9, 2023

[16] Interesting Engineering May 14, 2023

[17] Watts Up With That? May 12, 2023

[18] Friends of the Earth, From Lab to Fork, June 2018 (PDF)

[19] Cell Metabolism, 2019; doi: 10.1016/j.cmet.2019.05.008

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[31] FAO.org Food Safety Aspects of Cell-Based Food

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[33] Food Navigator Europe September 26, 2023

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