

## More Reasons to Avoid 'Beyond' Fake Meat

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### STORY AT-A-GLANCE

- › Beyond Meat has signed an agreement with the Jiaxing Economic & Technological Development Zone (JXEDZ) with plans to start producing its fake “beef,” “pork” and “chicken” products in China
- › Production is expected to begin on a trial basis within months while full-scale operations are slated for early 2021
- › The Beyond Meat brand is growing steadily, with total revenue increasing from \$16.2 million in 2016 to \$87.9 million in 2018; it was expected that its revenue would reach \$358 million in 2020, but it exceeded that, hitting \$406.8 million
- › Beyond Meat cites human health as one of its driving missions that will be achieved by shifting from animal to plant-based meat, but it’s widely known that ultraprocessed foods like fake meat are the enemy of good health
- › A hallmark of ultraprocessed foods are their long ingredient lists; Beyond Burgers patties contain 22 ingredients
- › If you’re interested in saving the planet and supporting your health, skip the fake meat alternatives trying to disguise themselves as health foods and opt for grass fed meat, which is real food that’s being raised the right way, instead

**This article was previously published October 7, 2020, and has been updated with new information.**

Beyond Meat is one of a handful of companies flooding the market with plant-based burgers and other fake meat products, billing them as a healthy, environmentally friendly alternative.

But before you fall for the marketing hype, be aware that these ultraprocessed junk foods are anything but natural, and Beyond Meat has even signed an agreement with the Jiaxing Economic & Technological Development Zone (JXEDZ) with plans to start producing its "beef," "pork" and "chicken" products in China.<sup>1</sup>

China, meanwhile, is notorious for its rampant food safety issues, including problems with illegal additives and contamination.<sup>2</sup> It's because China has these problems that a recent opinion piece in Food Safety News<sup>3</sup> is so relevant when it comes to Beyond Meat being manufactured in China.

The piece talks about the lack of transparency in food companies' disclosure of food safety violations to the FDA. So, if chemical contamination and other problems are occurring with other types of food and you're not hearing about it, who's to say the same thing won't happen with Beyond Meat and its lab-created products from China?

Jiaxing, the Chinese city where Beyond Meat plans "to design and develop manufacturing facilities in the JXEDZ, including a state-of-the-art production facility to manufacture plant-based meat products including beef, pork and chicken under the Beyond Meat brand in China," also happens to be the city where some 16,000 dead pigs were dumped into the Huangpu river, creating a toxic soup that threatened water supplies in 2013.<sup>4</sup>

## **Beyond Meat 'Delighted and Confident' Over China Deal**

In a news release, Beyond Meat CEO Ethan Brown shared the company's enthusiasm for the newfound partnership with China:<sup>5</sup>

*"We are delighted and confident that after several months of productive and collaborative discussions, we will partner with the JXEDZ to develop two*

*production facilities, including one of the world's largest and technologically advanced plant-based meat factories.*

*We are very impressed by the capabilities and vision of the JXEDZ and they are the ideal partner for us in this vitally important country and market."*

Production is expected to begin on a trial basis within months while full-scale operations are slated for early 2021. The question is whether U.S. consumers will receive the news of Beyond Meat being made in China with the same fervor.

As Food Safety News put it, "It remains to be seen how American consumers will respond. When USDA permitted China to process chickens raised and slaughtered in the U.S., Canada and Chile, thousands of American consumers protested because of China's dismal reputation for food safety."<sup>6</sup>

Beyond Meat has also stated that "China is a critical part of Beyond Meat's long-term growth strategy,"<sup>7</sup> and in April 2020 they launched three Beyond Beef products in Chinese Starbucks shops.<sup>8</sup> The brand is growing steadily, with total revenue increasing from \$16.2 million in 2016 to \$87.9 million in 2018.<sup>9</sup> It was expected that its revenue would continue to rise, reaching \$358 million in 2020, but it exceeded that, reaching \$406.8 million.<sup>10</sup>

## **Why Fake Meat Products Aren't 'Natural'**

Beyond Meat cites human health as one of its driving missions that will be achieved by shifting from animal to plant-based meat.<sup>11</sup> But it's widely known that ultraprocessed foods are the enemy of good health, even increasing the risk of premature death by 62% if eaten in quantities of more than four servings daily.<sup>12</sup>

What makes Beyond Meat an ultraprocessed product? According to the NOVA Food Classification system, designed by the Center for Epidemiological Studies in Health and Nutrition, ultraprocessed foods are:<sup>13</sup>

*"[I]ndustrial formulations made entirely or mostly from substances extracted from foods (oils, fats, sugar, starch, and proteins), derived from food constituents (hydrogenated fats and modified starch), or synthesized in laboratories from food substrates or other organic sources (flavor enhancers, colors, and several food additives used to make the product hyper-palatable)."*

A hallmark of ultraprocessed foods is their long ingredient lists. Beyond Burger's patties contain 22 ingredients. Among them are expeller-pressed canola oil, pea protein isolate, cellulose from bamboo, modified food starch and methylcellulose<sup>14</sup> – hardly "health" foods. To morph these ingredients into a patty that resembles meat requires significant processing.

Even registered dietician Emily Gelsomin, a senior clinical nutrition specialist at Massachusetts General Hospital, said to the Harvard Health Blog, "Even though legumes are sourced for protein in the branded meatless options, their health benefits are somewhat blunted by the high degree of processing involved."<sup>15</sup>

Beyond Meat certainly doesn't want to highlight the heavily processed nature of its fake food, so on its FAQ pages where it explains how they "rebuild meat," it's stated:<sup>16</sup>

*"Protein, fat, minerals, carbohydrates, and water are the five building blocks of meat. We source these building blocks directly from plants. Using heating, cooling, and pressure, we create the fibrous texture of meat from plant-based proteins.*

*Then, we mix in fats, minerals, fruit and vegetable-based colors, natural flavors, and carbohydrates to replicate the appearance, juiciness, and flavor of meat."*

## **Impossible Foods Holds 14 Patents**

Impossible Foods is another leader in the fake meat industry and one of Beyond Meat's top rivals. Its website also suggests its plant-based meat is better for you and the planet,<sup>17</sup> even though the products resemble nothing found in nature. In fact, Impossible Foods holds 14 patents, with at least 100 more pending.<sup>18</sup>

The patents, which were uncovered by Seth Itzkan, environmental futurist and co-founder and co-director of Soil4Climate, include the following and offer proof of the unnatural nature of these fake foods; truly natural foods cannot be patented.<sup>19</sup>

Patent No. 10287568 – Methods for extracting and purifying nondenatured proteins	Patent No. 10273492 – Expression constructs and methods of genetically engineering methylotrophic yeast	Patent No. 10172380 – Ground meat replicas
Patent No. 10172381 – Methods and compositions for consumables	Patent No. 10093913 – Methods for extracting and purifying non- denatured proteins	Patent No. 10039306 – Methods and compositions for consumables
Patent No. 10087434 – Methods for extracting and purifying nondenatured proteins	Patent No. 9943096 – Methods and compositions for affecting the flavor and aroma profile of consumables	Patent No. 9938327 – Expression constructs and methods of genetically engineering methylotrophic yeast
Patent No. 9833768 – Affinity reagents for protein purification	Patent No. 9826772 – Methods and compositions for affecting the flavor and aroma profile of consumables	Patent No. 9808029 – Methods and compositions for affecting the flavor and aroma profile of consumables
Patent No. 9737875 – Affinity reagents for protein purification	Patent No. 9700067 – Methods and compositions for affecting the flavor and	Patent No. 9011949 – Methods and compositions for consumables

## **Are Meat Eaters Being Misled?**

While you may assume that the allure of a plant-based burger applies most to vegans and vegetarians, research from market research firm NPD Group suggests that 95% of those who bought plant-based burgers were meat eaters.<sup>20</sup>

"Plant-based burgers allow consumers to substitute without sacrifice. They get the 'burger' experience while assuaging their need for more protein and social concerns," Darren Seifer, NPD Group food and beverage industry analyst, said in Market Watch.<sup>21</sup>

NPD Group's report added that 18% of the U.S. adult population is also trying to add more plant-based foods into their diet, presumably for the health benefits, but adding a processed plant-based meat substitute is not the same as adding more vegetables. It seems many meat eaters are being misled when they purchase meatless burgers, as they think they're doing their health and the environment a favor.

Impossible Foods even claims that they have a better carbon footprint than live animal farms and hired Quantis, a group of scientists and strategists who help their clients take actions based on scientific evidence, to prove their point.

According to the executive summary 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.<sup>22</sup> This, however, compares fake meat to meat from concentrated animal feeding operations (CAFOs), which are notoriously destructive to the environment.

"The pretense that this wealth-concentrating march of the software industry into the food sector is in any way good for people or the environment is predicated on a comparison with only the worst aspects of animal agriculture," Itzkan said.<sup>23</sup>

## **Grass Fed Meat Is a Better Choice**

A healthier and more sustainable choice to the typical CAFO burger would be to choose beef from grass fed cows. White Oak Pastures in Bluffton, Georgia, which produces high-quality grass fed products using regenerative grazing practices, commissioned the same analysis by Quantis and published a 33-page study showing comparisons of White Oaks Pastures emissions against conventional beef production.<sup>24</sup>

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.

Further, 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, which offset the majority of emissions related to beef production.<sup>25</sup>

It's worth noting, too, that the Impossible Burger, which is made from GMO soy, contains Roundup ingredient glyphosate and its breakdown product AMPA,<sup>26</sup> at levels of 11.3 parts per billion – that's 11 times higher than the glyphosate found in the Beyond Meat Burger.<sup>27</sup> Impossible Foods' scientists also fed leghemoglobin to rats for 28 days to determine the risk of allergic reaction or toxicity.

In plants, leghemoglobin is the protein that carries heme, an iron-containing molecule. Originally, Impossible Foods harvested leghemoglobin from the roots of soy plants, but deemed that method unsustainable. Instead, they turned to genetic engineering, which they use to insert the DNA from soy plants into yeast, creating GE yeast with the gene for soy leghemoglobin.<sup>28</sup>

Dana Perls, from Friends of the Earth, pointed out that the rats exhibited alterations in blood chemistry after being fed leghemoglobin, which the company did not follow up on.<sup>29</sup>

Consumer Reports senior scientist Michael Hansen added that there are no long-term studies of soy leghemoglobin in humans, even though the process to make it creates at least 45 other proteins as byproducts, which are also consumed and in need of further

evaluation.<sup>30</sup> Even the U.S. Food and Drug Administration has raised concerns over the soy leghemoglobin in the Impossible Burger being a possible human allergen.<sup>31</sup>

On the other hand, grass fed animal products are better for the environment and public health. Levels of cancer-fighting conjugated linoleic acid (CLA), for instance, increase by two- to three-fold when cattle are grass finished as opposed to grain finished.<sup>32</sup>

The ratio of dietary fats is also healthier in grass fed beef,<sup>33</sup> which is a whole food, not an ultraprocessed junk food. If you're interested in saving the planet and supporting your health, skip the fake meat alternatives trying to disguise themselves as health foods and opt for real food that's being raised the right way instead.

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