



February 14, 2020

By electronic submission

Food Standards Australia New Zealand
PO Box 5423
KINGSTON ACT 2604
Australia

Submission re: Application A1186, Soy leghemoglobin in meat analogue products

To whom it may concern:

The Good Food Institute submits the following comments in support of the application of Impossible Foods (“Impossible”) to allow for the use of soy leghemoglobin in food (A1186).

The Good Food Institute (“GFI”) is a global nonprofit organisation working to build a sustainable, healthy, and just food system by harnessing the power of food innovation and markets to accelerate the transition of the world’s food system to plant-based and cultivated meat, eggs, and dairy. Since its creation in 2016, GFI has established itself as an expert organisation in alternatives to conventionally produced meat. GFI has published numerous white papers and academic journal articles, created detailed guides for understanding and entering alternative proteins, and provided detailed submissions to regulators in the United States and elsewhere. Based in the USA, GFI is currently engaged in dialogue with regulators and policymakers around the world, including in the United States, Singapore, Brazil, India, and the United Kingdom.

GFI offers its services to stakeholders at every phase of the market and cultivates an interdisciplinary, broadly-informed perspective on the alternative protein industry, providing support and information to entrepreneurs, established businesses, scientists, regulators, and other nonprofit organisations. As an independent nonprofit, GFI exists to support the field broadly; it is funded by philanthropy and is not tied to the industry as a whole or affiliated with any company or companies.

GFI presents below (1) comments on the consumer and environmental benefits in favor of approving the application, and (2) information on the importance of technology like the applicant's in the future of sustainable food.

FSANZ Act Section 29: Consideration of costs and benefits

Soy leghemoglobin is specifically for use in “meat analogue products.” Research shows that such products use between 47-99% less land and 72-99% less water, while emitting 51-91% less aquatic nutrient pollution and 30-90% less greenhouse gas emissions than comparable meat-based products.¹ For the applicant's burger product specifically, using a lifecycle assessment prepared by Quantis USA, estimated land use reduction is 96%, water use reduction is 87%, aquatic pollution reduction is 91%, and greenhouse gas emissions reduction is 89%.²

Impossible and FSANZ both cite the potential benefits to consumers who are “looking for a ‘more ethical and environmentally friendly alternative meat products....’” GFI would add that the environmental benefit should itself be accounted for in the cost-benefit analysis. The World Resources Institute estimates that global demand for beef will nearly double by 2050 (from a 2006 baseline), and that as global demand expands, an increasing share of beef will be produced by especially harmful methods (such as conversion of rainforest into pasture).³ Even modest shifts in consumption to include more plant-based options (like Impossible's plant-based burgers) can slow the global growth of beef demand and prevent associated land-use changes that are particularly harmful in exacerbating climate change.

GFI would also like to add context on the consumer benefits of access to premium alternative products like Impossible's. At this point, Impossible's products are available to consumers in the United States, Singapore, Hong Kong, and Macao (and as FSANZ has noted, promoting “consistency between domestic and international food standards” would be another benefit of granting this application.) The experience of the United States shows a likely economic benefit: consumer demand for plant-based meat in the U.S. is driving double-digit growth of the sector.⁴ For example, following the introduction of the applicant's Impossible Whopper in the U.S. chain Burger King last

¹ Good Food Institute (2019) *Plant-based Meat for a Growing World*, available at https://www.gfi.org/images/uploads/2019/08/GFI-Plant-Based-Meat-Fact-Sheet_Environmental-Comparison.pdf

² *Ibid.* at p. 2, citing lifecycle assessment available at <https://impossiblefoods.com/mission/lca-update-2019/>.

³ World Resources Institute (2016) *Shifting Diets for a Sustainable Future*, at p. 42, available at <https://www.worldresourcesreport.org>.

⁴ Current data from SPINS and Nielsen available at <https://www.gfi.org/marketresearch>.

year, quarterly sales at the chain increased 10% year-over-year.⁵ This also shows that products like Impossible's present considerable growth opportunities for industry in addition to the benefits of expanding consumer choice.

The role of technology in the future of sustainable food

GFI believes that technology like the applicant's will play a critical role in building a sustainable food supply. We are aware that some consumers have expressed concerns over the role of genetic engineering in the production process for the applicant's new ingredient.⁶

Such objections are misconceived. The food industry has been producing food-grade proteins using genetically engineered microbes for decades, and Impossible's product is no different in kind. FSANZ Schedule 18 includes numerous enzymes of microbial origin, and these include notable enzymes used in cheesemaking (e.g. chymosin) that are produced with similar genetic engineering techniques. The safety of using yeast or other microbes to produce food ingredients has been established by numerous safety assessments and a long history of use. And the resulting near-limitless supply of microbially-produced food processing enzymes has been of great benefit to the food industry and consumer choice.

Following in this trend of fermentation-produced food products, several companies are now working on the production of food proteins like milk proteins, egg proteins, collagen proteins, and others at mass scale through the use of recombinant microbial production techniques. New products like these (and like Impossible's product) are expected eventually to yield benefits in terms of resource use and greenhouse gas emissions as described above, all while benefiting the food industry and consumers with greater availability and choice.

Finally, GFI notes that Impossible's products will clearly be labelled as genetically engineered foods under applicable law, enabling consumers who object to genetic engineering in food to avoid those products if they so choose. GFI supports the right of consumers to make their own choices on such matters. Conversely, those who object to

⁵ CNN.com, *Impossible Whoppers are a huge hit at Burger King, fueling its best quarter in four years* (Oct. 28, 2019) available at

<https://www.cnn.com/2019/10/28/investing/restaurant-brands-earnings-burger-king-popeyes/index.html>.

⁶ See, e.g. Bonnie Flaws, *Alternative meat company applies to allow genetically modified fake blood product* (Jan. 20, 2020) at

<https://www.stuff.co.nz/business/118902232/alternative-meat-company-applies-to-allow-genetically-modified-fake-blood-product>.

the use of biotechnology in food production should not impose their will on consumers who do not share that view, especially where consumers may favor the ethical and demonstrated environmental benefits of new technologies.

Finally, the food safety assessment by Impossible, as reviewed by the U.S. Food and Drug Administration and by FSANZ in its Risk and Technical Assessment Report, demonstrates the safety of soy leghemoglobin at the described levels of use. GFI submits that the scientific record is more than sufficient to make this determination.

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GFI appreciates the opportunity to submit these comments. Please feel free to contact us if we can provide further information useful to your determination.

Sincerely,