Briefing Document for European Policymakers: Do Not Authorise the Impossible Burger

Introduction

The 'Impossible Burger', composed of a genetically modified (GMO) meat substitute, would be the first GMO foods authorised in the European Union for many years. Despite its claims of sustainability and safety, the product relies on untested GMO technology, lacks rigorous safety assessments, and promotes a false narrative of environmental benefits. Healthier alternatives for sustainable diets already exist for consumers in the EU which do not depend on highly processed foods such as genetically modified substances.

We urge EU policymakers to:

1. **Reject the marketing and authorisation** of the Impossible Burger in the European Union.
2. **Prioritise proven, sustainable alternatives** such as agroecological farming and locally adapted plant-based diets.
3. **Strengthen transparency and safety standards** for GMO products to protect public health and the environment.

The Impossible Burger is not a solution to the climate crisis or food security—it is a partially tested product that conflicts with the EU's commitment to the precautionary principle and sustainable food systems.

What is the Impossible Burger, and why should it not be authorised in the EU?

The Impossible Burger is a lab-made meat substitute designed to mimic the taste, texture, and appearance of real meat. Its key ingredient, soy leghemoglobin (LegH Prep), is produced using genetically modified yeast. This product is classified as both a GMO food and a food additive under EU regulations[1]. The burger and its assessment by the European Food Safety Authority

[1] EU regulation on GMO 1829/2003 and on food additive under regulation 1331/2008: https://food.ec.europa.eu/horizontal-topics/committees/paff-committees/novel-food-and-toxicological-safety_en and https://food.ec.europa.eu/horizontal-topics/committees/paff-committees/genetically-modified-food-and-feed-and-environmental-risk_en

(EFSA)[2] **fails to comply with Precautionary Principle and General EU Food law[3]**: The EU's Food law and the precautionary principle mandates that only safe products can be marketed in the Union. The Impossible Burger fails to meet these standards.

Authorising this product is unnecessary and would set a dangerous precedent for untested GMO foods in the EU.

How is the Impossible Burger made?

The Impossible Burger's "bleeding" effect comes from a molecule called "heme," which is produced by inserting soybean root DNA into genetically modified yeast. This process created 46 unexpected proteins, none of which were fully tested for safety[4].

Main gaps in the safety assessment

The safety assessment of the Impossible Burger is riddled with gaps and flaws:

1. **Not sufficiently Untested for Human Consumption**: The key ingredient, LegH Prep, has no history of safe use in food. Animal studies have shown adverse health effects, including anemia, kidney issues, and blood clotting problems[5]. These findings were dismissed without valid scientific justification.
2. **Unknown Contaminants**: LegH Prep contains 35% unidentified and untested proteins from the GM yeast, raising serious safety concerns[6].
3. **Misleading Safety Data**: Safety assessments were conducted using an older, less refined strain of GM yeast, not the one intended for commercial use[7]. This undermines the validity of the safety conclusions by the European Food Safety Authority claims.[8]

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[2] **https://www.efsa.europa.eu/en/efsajournal/pub/9060**

[3] **https://eur-lex.europa.eu/eli/reg/2002/178/oj/eng**

[4] https://theecologist.org/2017/aug/15/does-impossible-burger-feed-our-desire-avoid-necessary-choices

[5] https://food.ec.europa.eu/document/download/d2f34894-49f0-4c05-aa20-4365f47bd135_en?filename=gmo_pub-cons_comments_2024-9060_en.pdf

[6] https://food.ec.europa.eu/document/download/d2f34894-49f0-4c05-aa20-4365f47bd135_en?filename=gmo_pub-cons_comments_2024-9060_en.pdf

[7] https://gmwatch.org/files/Comments-on-EFSA-opinions-on-soy-leghemoglobin-12-12-24b.pdf

[8] **https://www.efsa.europa.eu/en/efsajournal/pub/9060**

4. **Inadequate Animal Testing**: Studies on rats fed LegH Prep revealed unexplained weight changes, signs of toxicity, and organ damage[9]. These results were ignored in the EFSA's evaluation.
5. **Use of Wrong Strain**: Safety data was based on an outdated strain of GM yeast, not the one used in the final product. This makes the safety claims unreliable.
6. **Unidentified Contaminants**: The GM yeast process resulted in 46 unexpected proteins, none of which were fully identified or tested for safety.
7. **Lack of Long-Term Studies**: No long-term studies have been conducted to assess the potential health impacts of consuming this novel GMO product.

These gaps highlight the need for a more rigorous and transparent safety assessment process.

False claims about water reduction and GHG Emission reduction

Impossible Foods claims that their burger reduces water use and greenhouse gas (GHG) emissions compared to conventional beef. However, these claims are misleading:

1. **Industrial Agriculture Reliance**: The production of GM soy and yeast relies on resource-intensive industrial farming, which contributes to deforestation, biodiversity loss, and high water use[10].
2. **Lifecycle Analysis Gap**: The company's lifecycle assessments fail to account for the full environmental impact of GM crop cultivation, including pesticide use and soil degradation.[11]
3. **Greenwashing**: The burger's marketing distracts from the real solutions to climate change, such as reducing meat consumption and supporting agroecological farming.

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[9] https://gmoscience.org/2019/06/25/rat-feeding-studies-suggest-the-impossible-burger-may-not-be-safe-to-eat/

[10] **https://www.cambridge.org/core/journals/environmental-conservation/article/abs/soybean-cultivation-as-a-threat-to-the-environment-in-brazil/191311DBCD27A85DBF0782E989956867**

[11] **https://assets.ctfassets.net/hhv516v5f7sj/4exF7Ex74UoYku640WSF3t/cc213b148ee80fa2d8062e430012ec56/Impossible_foods_comparative_LCA.pdf**

4. **Environmental Risks**: The production of GM yeast and soy for the burger relies on industrial agriculture, which increases pesticide use[12] and risks contaminating non-GMO crops[13].

The Impossible Burger is not a sustainable alternative—it perpetuates the same industrial practices that harm the environment.

Better alternatives for healthy and locally adapted diets

Instead of promoting untested GMO products like the Impossible Burger, the EU should invest in proven, sustainable solutions:

1. **Agroecological Farming:** Support farming practices that enhance biodiversity, soil health, and climate resilience.
2. **Locally Adapted Diets**: Promote diets based on fresh, seasonal, and locally grown plant-based foods, such as lentils, chickpeas, beans, and whole grains.
3. **Minimally Processed Foods**: Encourage the consumption of minimally processed plant-based proteins like tofu, tempeh, and seitan, which are healthier and more sustainable than ultra-processed GMO products.
4. **Policy Measures**: Use the EU Common Agricultural Policy (CAP) to incentivise the production of protein crops for human consumption and make healthy, sustainable food more accessible and affordable[14].

These alternatives align with the EU's Farm to Fork Strategy and Green Deal objectives, offering real solutions for a sustainable food system.

Conclusion

The Impossible Burger represents a step backward for food safety, environmental sustainability, and public health. By saying NO to the Impossible Burger, the EU can protect its citizens, environment, and food sovereignty while paving the way for truly sustainable solutions.

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[12] **https://enveurope.springeropen.com/articles/10.1186/2190-4715-24-24**

[13] **https://www.nature.com/articles/35107068**

[14] **https://www.beuc.eu/sites/default/files/publications/BEUC-X-2025-001_Unwrapping_veggie_burgers.pdf**